FINAL
GROUNDWATER MONITORING REPORT
SECOND QUARTER 2006
PACIFIC AIRMOTIVE CORPORATION
2940 AND 3003 NORTH HOLLYWOOD WAY
BURBANK, CALIFORNIA

Prepared for:

LOCKHEED MARTIN

Prepared by:

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3475 E. Foothill Blvd.
Pasadena, California
TC# 17653-0602 / August 2006

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rec'd 8/23/06

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Dear Rachel:

Enclosed please find one (1) copy of the Groundwater Monitoring Report, Second Quarter 2006, Pacific Airmotive Corporation, 2940 and 3003 North Hollywood Way, Burbank, California. Please do not hesitate to contact me if you have any questions or comments.

Regards,

Lisa A. Hamilton
Manager, MidAtlantic/Southeast/Western Regions

cc Linda Gertler, LMC (w/out enclosure)
Ken Martins, CH2M Hill (with enclosure)
Dixon Oriola, LARWQCB (with enclosure)
Alex Lapostol, E2 (with enclosure)

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1.0 INTRODUCTION

On behalf of Lockheed Martin Corporation (LMC), Tetra Tech, Inc. (Tetra Tech) has prepared this groundwater monitoring report for two Pacific Airmotive Corporation (PAC) properties within the Burbank Operable Unit (BOU) in Burbank, California (Figure 1-1). LMC is performing work requested by the U.S. Environmental Protection Agency (EPA) in a letter directed to General Electric (GE) dated October 20, 2005 due to a settlement agreement between PAC, an indirect wholly-owned subsidiary of GE, and LMC.

In the October 20, 2005 letter, the EPA requested GE to initiate four quarters of groundwater sampling of the eight (8) existing wells at the PAC properties based on previous facility operations, detection of constituents, lack of current groundwater results, and recent regulatory concerns related to potential sources associated with emergent chemicals within the BOU. The EPA required analysis of the groundwater for volatile organic compounds (VOCs), 1,2,3-trichloropropane (1,2,3-TCP), Title 22 metals, including thallium and dissolved (total) chromium, hexavalent chromium, 1,4-dioxane, N-Nitrosodimethylamine (NDMA), perchlorate, nitrate/nitrite, common cations and anions, dissolved oxygen, sulfide, and dissolved iron and manganese.

1.1 SITE LOCATION AND DESCRIPTION OBJECTIVE

The PAC properties are located at 2940 and 3003 North Hollywood Way within the north-central portion of the BOU (Figure 1-1). The property at 2940 North Hollywood Way was identified as the Main Facility, and the property at 3003 North Hollywood Way was identified as the Jet Engine Test Cell Facility. Both facilities were historically associated with the manufacturing, design, and repair of aircraft and aircraft engines. Structures located on both PAC properties are currently vacant.

1.2 OBJECTIVE

The purpose of this groundwater monitoring report is to comply with the provisions of the EPA October 20, 2005 letter. The objective of this monitoring report is to present

Figure 1-1 - BOU Boundary Map

groundwater data collected during the second quarter 2006. The groundwater data is being collected to assist the EPA in assessing the current groundwater quality and conditions at the above mentioned monitoring wells and within the BOU. The quarterly monitoring report presents field, laboratory analytical results, and quality control data collected during groundwater level and water quality monitoring.

1.3 REPORT ORGANIZATION

The second quarter 2006 quarterly groundwater monitoring report has been organized into the following six (6) sections:

Section 1. *Introduction*: introduces the project and presents the objectives and report format.

Section 2. *Subsurface Conditions*: presents the site geologic and hydrogeologic setting.

Section 3. *Description of Historical Areas of Concern*: identifies the areas of groundwater concern beneath the PAC properties.

Section 4. *Groundwater Monitoring Procedures*: summarizes the groundwater monitoring activities, groundwater measurements, and laboratory analysis conducted.

Section 5. *Groundwater Analytical Results*: discusses groundwater monitoring results.

Section 6. *References*: lists the references used to prepare this quarterly groundwater monitoring report.

SECTION 2
SUBSURFACE
CONDITIONS

2.0 SUBSURFACE CONDITIONS

2.1 GEOLOGY

The PAC properties are located in the southeastern portion of the San Fernando Valley (SFV) between the Santa Monica and Verdugo mountains. The SFV is located on the northwestern block of the Los Angeles Basin within the Transverse Ranges Geomorphic Province, an east-west trending unit composed of subparallel ranges separated by alluviated, synclinal valleys and prominent faults. The SFV is bordered to the north by the Santa Susana and San Gabriel mountains, to the east by the Verdugo Mountains, to the south by the Santa Monica Mountains, and to the west by the Simi Hills. These uplands are composed of crystalline bedrock of Precambrian to Mesozoic in age and sedimentary units from Cretaceous to Pleistocene in age. The crystalline bedrock and sedimentary units were eroded from the uplands during the Quaternary Period and deposited as more than 2,000 feet of alluvium in the SFV. The only major structural feature within close proximity to the PAC properties is the Verdugo Fault, which is approximately one mile to the northeast and trends northwesterly along the base of the Verdugo Mountains (Tetra Tech, 2006a).

2.2 HYDROGEOLOGY

The PAC properties are located within the San Fernando Basin (SFB), one (1) of four (4) distinct groundwater basins that encompass the entire watershed of the Los Angeles River and its tributaries within the SFV (also known as the Upper Los Angeles River Area – ULARA). Groundwater within the eastern portion of the SFB flows mainly through two sedimentary units: 1) Older Alluvium of Pleistocene age and 2) Younger Alluvium of Holocene age. The Older Alluvium is comprised of sand, gravel, and boulders in the northwestern portion of the BOU to interbedded silt and sand in the eastern and southern portions of the BOU. The Younger Alluvium is comprised of coarse sand, gravel, and cobbles interbedded with finer-grained units of sand, silty sand, sandy silt, silty clay, and minor gravelly sand. Groundwater flow within the Older Alluvium has been observed to be locally semi-confined to confined. The Younger alluvium is generally unconfined to

semi-confined, depending upon the location and thickness of fine grained interbeds (Tetra Tech, 2006a).

The aquifer in the Younger Alluvium within the BOU has been divided into five hydrostratigraphic units (HSU) based on electrical resistivity responses in geophysical logs (Hargis & Associates, 1991; Simon Hydro-Search, 1993). The five HSUs of the Younger Alluvium are identified from upper to lower as A', X, A, Y, and B. The A', A, and B units are generally composed of coarser-grained material (coarse sands, gravels, and cobbles). The X and Y HSUs separate the three (A', A, B) HSUs listed above and consist of relatively finer-grained material including sand, silty sand, and silt. Based on the stratigraphic position of the units and the groundwater gradient, the A', X, or A HSU may locally represent water table conditions depending on geographic location within the project area.

Groundwater flow direction in the SFB is generally toward the southeast. Groundwater velocities in the BOU range from approximately 300 to 900 feet per year (ULARA, 2005).

SECTION 3
DESCRIPTION OF HISTORICAL AREA OF CONCERN

3.0 DESCRIPTION OF HISTORICAL AREAS OF CONCERN

After reporting a jet fuel spill to the Los Angeles Regional Water Quality Control Board (LA-RWQCB) in 1987, PAC agreed to install MW-1 and MW-2 at the Jet Engine Test Facility downgradient of the location of the fuel spill. In 1992, in an effort by the LA-RWQCB to assess the groundwater analytes underlying the PAC properties, monitoring well MW-3 was installed at the Jet Engine Test Cell Facility, and wells MW-4 through MW-8 were installed at the Main Facility (Figure 3-1).

The EPA issued a Unilateral Administrative Order (UAO) in 1994 which required PAC to perform soil and groundwater investigations. As part of the soil investigation, PAC conducted soil gas surveys across the PAC properties to assess the nature and extent of vapor and non-vapor phase analytes in the unsaturated zone. Since 1997, when PAC became an indirect wholly owned subsidiary of GE, PAC, through GE technical and legal representatives acting on its behalf, has been working with the LA-RWQCB to further investigate and remediate PAC properties (Tetra Tech, 2006a).

Semi-annual groundwater monitoring from June 1987 through December 1988 indicated elevated levels of trichloroethene (TCE) and tetrachloroethene (PCE) in monitoring wells MW-1 and MW-2 (Table 3-1). Groundwater monitoring from September 1992 through January 1995 showed PCE and TCE concentrations exceeding regulatory maximum contaminant levels (MCLs) of 5 micrograms per liter (μg/L) in wells MW-3 through MW-8 (Table 3-2). Monitoring wells MW-1 and MW-2 were both dry during this time period.

Figure 3-1 - PAC Wells Location Map

Table 3-1
Historical Analysis From 1987 – 1989
(Reported in µg/L)

	6/18/87		12/29/87		6/14/88		12/15/88	
	PCE	**TCE**	**PCE**	**TCE**	**PCE**	**TCE**	**PCE**	**TCE**
MCL	5	5	5	5	5	5	5	5
Composite of MW-1 & MW-2	***130***	***32***						
MW-1	***130****	***32****	***67***	***24***	***160***	***31***	***75***	***12***
MW-2	***130****	***32****	***190***	***41***	***200***	***33***	***130***	***15***

Notes: All concentrations in µg/L
Bold – Result above MCL
* Result based on composite sample

Table 3-2
Historical Analysis From 1992 – 1995
(Reported in µg/L)

Well ID	9/15-16/92		12/16-19/92		7/19-20/94		12/25-26/94		1/30-31/95	
	PCE	**TCE**	**PCE**	**TCE**	**PCE**	**TCE**	**PCE**	**TCE**	**PCE**	**TCE**
MCL	5	5	5	5	5	5	5	5	5	5
MW-1	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
MW-2	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
MW-3	***39***	***11***	***47***	***12***	***18***	***6.4***	***58***	***8.8***	***63***	***7.8***
MW-4	***460***	***46***	***400***	***41***	***22***	***6.3***	***25***	3.6	***13***	2.2
MW-5	***2100***	***440***	***64***	***13***	***40***	***8.9***	***150***	***24***	***49***	***6.9***
MW-6	***910***	***250***	***490***	***120***	***39***	***7.4***	***1300***	***170***	***800***	***110***
MW-7	***87***	***18***	***420***	***49***	***43***	***11***	***2000***	***88***	***490***	***19***
MW-8	***1700***	***160***	***1200***	***94***	***21***	***5.1***	***1800***	***170***	***1800***	***130***

Notes: All concentrations in µg/L
Bold – Result above MCL

SECTION 4
GW MONITORING
PROCEDURES

4.0 GROUNDWATER MONITORING PROCEDURES

4.1 GROUNDWATER LEVEL MEASUREMENTS

Water levels in the eight (8) monitoring wells were measured on June 2 and June 6, 2006 using a water level meter consisting of a liquid sensor attached to a measuring tape that was lowered down into the well until water was encountered. Water level measurements were recorded on well purging forms (Appendix A) and are presented in Table 4-1. Groundwater monitoring wells MW-1 and MW-2 were dry. Groundwater elevation contours are shown on Figure 4-1. The groundwater flow direction is to the east.

Table 4-1
Summary of Groundwater Elevations

Well Number	HSU	Date Measured	Top of Casing (TOC) Elevation (feet msl)	Groundwater Depth from TOC (feet)	Groundwater Elevation (feet msl)
MW-1	NA	dry	NA	dry	dry
MW-2	NA	dry	NA	dry	dry
MW-3	NA	06/02/2006	NA*	241.56	NA
MW-4	A	06/06/2006	700.5	227.61	472.89
MW-5	A	06/06/2006	704.2	229.67	474.53
MW-6	A	06/06/2006	701.2	227.96	473.24
MW-7	A	06/06/2006	696.4	225.61	470.79
MW-8	A	06/06/2006	NA*	227.25	NA

Note:
HSU – Hydrostatic unit
TOC – Top of casing
msl – Mean sea level
NA – Not available
* TOC will be surveyed prior to the third quarter 2006 monitoring

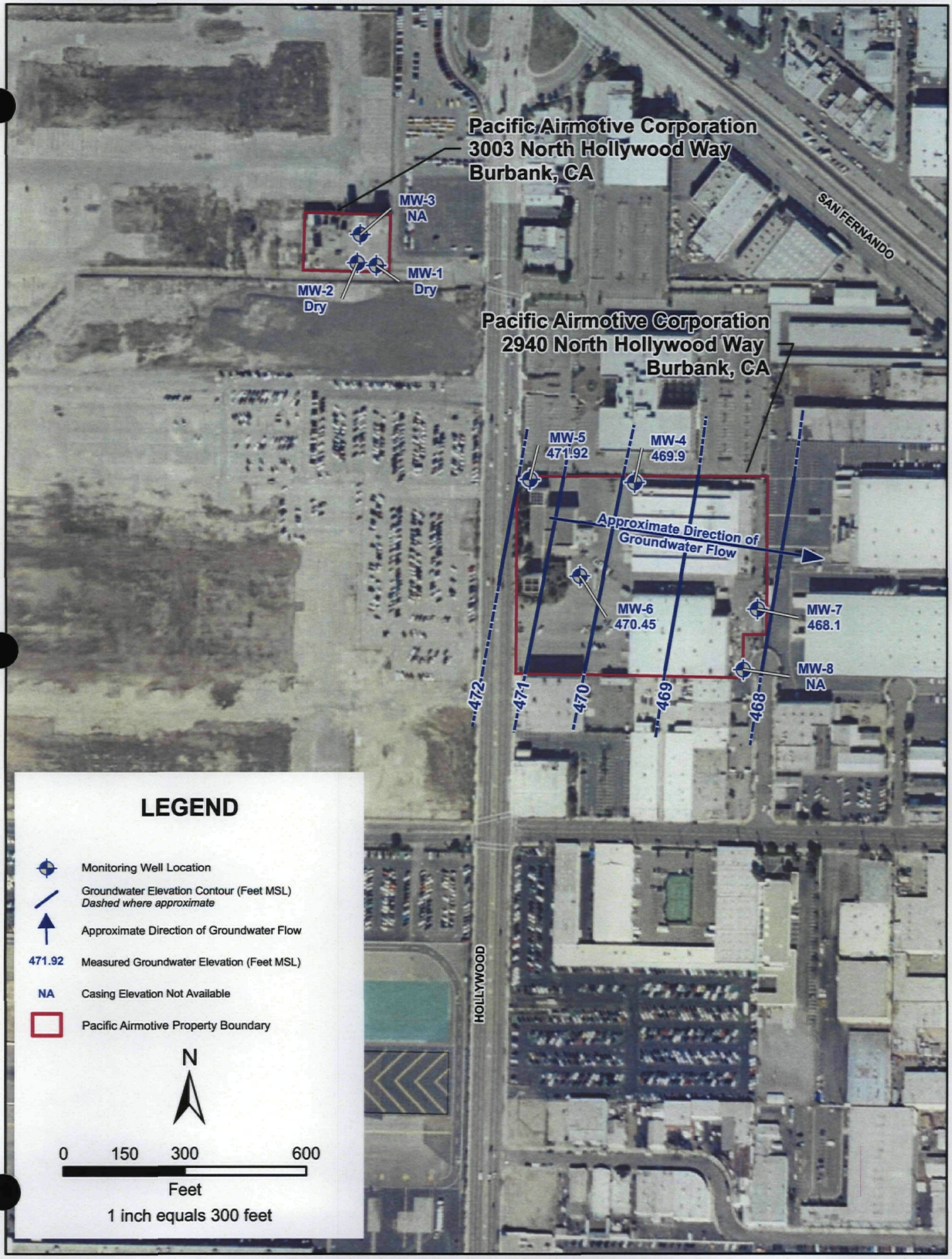

Figure 4-1 - Second Quarter 2006 WT HSU's Groundwater Elevation, PAC

4.2 WELL PURGING AND SAMPLING

Well development was completed in March 2006 in order to optimize groundwater production within each well prior to the initial quarterly sampling. This was done because groundwater monitoring and sampling had not been completed at the eight (8) PAC wells since 1995.

Prior to collecting the groundwater samples in June 2006, a minimum of three well volumes was purged from monitoring wells MW-3 through MW-8 using a submersible pump. Water temperature, pH, conductivity, dissolved oxygen, and turbidity were measured throughout the purging process using a field water quality monitoring system. Stabilization of these parameters served as an indication of water representative of the formation, and their values were recorded on well purging forms (Appendix A).

The groundwater samples were collected using a down-hole submersible pump for monitoring wells MW-3 through MW-8. Groundwater samples were collected from a nozzle attached to the pump hose and placed directly into sample containers provided by the laboratory. Decontamination procedures were followed after each monitoring well was sampled to avoid cross-contamination between wells. The water samples were placed on ice in a cooler to maintain a temperature of $^{+}/_{-}$ 4°C pending delivery to Calscience Environmental Laboratories, Inc., a State of California certified laboratory, for analysis. A completed chain-of-custody form accompanied the shipment of samples to the laboratory to ensure accountability for the samples from the time of collection to the time of analysis.

4.3 LABORATORY ANALYSIS

Groundwater samples were collected from the six (6) groundwater monitoring wells (MW-3 through MW-8) on June 19 and 20, 2006 at the PAC facility. Samples analyzed for dissolved metals were filtered in the field using a disposable filter.

The EPA has requested that groundwater samples from the PAC wells be analyzed for specific constituents using analytical methods consistent with those of the BOU groundwater sampling events as follows:

- VOCs, including MTBE, using EPA Method 8260B;
- 1,2,3-TCP, using EPA Method 504.1 or 524M;
- Title 22 metals, including thallium and dissolved (total) chromium, using EPA Method 6010B/7470A;
- Hexavalent chromium, using EPA Method 218.6;
- 1,4-dioxane, using EPA Method 8270C (M);
- NDMA, using EPA Method 1625C (M);
- Perchlorate, using EPA Method 314.0;
- Nitrate/nitrite, using EPA Method 300.0;
- Cations, using EPA Method 6010B;
- Anions, using EPA Method 300.0;
- Dissolved oxygen, using EPA Method SM 4500-O G;
- Sulfide, using EPA Method 376.2; and
- Dissolved iron and manganese using EPA 3005A Filter/EPA 200.8.

SECTION 5
GW ANALYTICAL
RESULTS

5.0 GROUNDWATER ANALYTICAL RESULTS

Based on the data collected during the second quarter 2006 groundwater sampling event, compounds are reported and compared to their respective MCL or California drinking water notification level (CDWNL). The MCL or CDWNL concentrations are based on the lowest value in "A Compilation of Water Quality Goals, California Regional Water Quality Control Board, Central Valley Region," dated September 2004. Copies of the laboratory analytical data reports are included in Appendix B. A summary of the analytes detected is provided in Tables 5-1 through 5-6. A summary of the analytical results is presented in the following subsections.

5.1 VOC ANALYTICAL RESULTS

Groundwater samples collected from six (6) groundwater monitoring wells were analyzed for VOCs. A summary of the analytical results are presented in Table 5-1 and discussed below:

- **Acetone** was detected in one (1) groundwater sample (MW-8) at a concentration of 10 µg/L and was estimated in three (3) groundwater samples (MW-3, MW-5, and MW-7) with concentrations of 9.7 µg/L, 6.3 µg/L, and 9.8 µg/L, respectively. However, these three estimated sample results are considered not to have originated from the native sample. Laboratory cross-contamination (shown in the method blank) likely caused these detections.
- **Carbon Tetrachloride** was detected in five (5) groundwater samples (MW-3, MW-4, MW-5, MW-6, and MW-8) with concentrations of 1.1 µg/L, 0.81 µg/L, 2.4 µg/L, 3.1 µg/L, and 0.79 µg/L, respectively.
- **Chloroform** was detected in five (5) groundwater samples (MW-3, MW-4, MW-5, MW-6, and MW-8) with concentrations of 1.4 µg/L, 1.3 µg/L, 2.0 µg/L, 2.4 µg/L, and 1.1 µg/L, respectively, and was estimated in one (1) groundwater sample (MW-7) with a concentration of 0.71 µg/L.
- **Methylene Chloride** was estimated in all six (6) groundwater samples (MW-3 through MW-8) with concentrations of 3.6 µg/L, 4.5 µg/L, 4.6 µg/L, 3.9 µg/L, 3.6 µg/L, and 4.2 µg/L, respectively. However, these detections are considered not to have originated from the native sample. Laboratory cross contamination (shown in the method blank) likely caused the detections.
- **Tetrachloroethene** was detected in all six (6) groundwater samples (MW-3 through MW-8) with concentrations of 36 µg/L, 120 µg/L, 150 µg/L, 150 µg/L, 50 µg/L, and 160 µg/L, respectively.

- **1,2-Dichloroethane** was detected in one (1) groundwater sample (MW-8) at a concentration of 1.6 µg/L and was estimated in two (2) groundwater samples (MW-3 and MW-5) with concentrations of 0.46 µg/L and 0.29 µg/L, respectively.
- **1,1-Dichloroethene** was detected in three (3) groundwater samples (MW-3, MW-5, and MW-6) with concentrations of 2.6 µg/L, 2.6 µg/L, and 3.4 µg/L, respectively, and estimated in three (3) groundwater samples (MW-4, MW-7, and MW-8) with concentrations of 0.64 µg/L, 0.41 µg/L, and 0.97 µg/L, respectively.
- **1,1,2-Trichloro-1,2,2-trifluoroethane** was estimated in five (5) groundwater samples (MW-3, MW-4, MW-5, MW-6, and MW-8) with concentrations of 1.9 µg/L, 1.1 µg/L, 1.6 µg/L, 1.1 µg/L, and 2.2 µg/L, respectively.
- **Trichloroethene** was detected in all six (6) groundwater samples (MW-3 through MW-8) with concentrations of 12 µg/L, 48 µg/L, 84 µg/L, 75 µg/L, 17 µg/L, and 58 µg/L, respectively.

A review of the VOC analytical data shows that four (4) compounds were detected above their respective MCL. Carbon tetrachloride was detected above the MCL of 0.5 µg/L in five (5) groundwater samples (MW-3 through MW-6 and MW-8). Tetrachloroethene was detected above the MCL of 5 µg/L in all six (6) groundwater samples. The compound 1,2-dichloroethane was detected above the MCL of 0.5 µg/L in one (1) groundwater sample (MW-8). Trichloroethene was detected above the MCL of 5 µg/L in all six (6) groundwater samples.

Table 5-1
Summary of Detected VOCs Analytical Results
EPA Method 8260B
(Reported in µg/L)

Well ID	Acetone	Bromo-dichloromethane	Carbon Tetrachloride	Chloroform	Chloromethane	Methylene Chloride	Tetrachloroethene	1,2-Dichloroethane	1,1-Dichloroethene	1,1,2-Trichloro-1,2,2-trifluoroethane	Trichloroethene
MCL	**NA**	**80** [1]	**0.5** [1]	**80** [1]	**NA**	**NA**	**5** [2]	**0.5** [2]	**6** [2]	**1,200** [2]	**5** [2]
MW-3	9.7[J,B]	<0.27	**1.1**	1.4	<1.8	3.6[J,B]	**36**	0.46[J]	2.6	1.9[J]	**12**
MW-4	<6.1	<0.27	**0.81**	1.3	<1.8	4.5[J,B]	**120**	<0.22	0.64[J]	1.0[J]	**48**
MW-4D	9.5[J]	<0.27	**0.88**	1.2	<1.8	2.9[J,B]	**120**	<0.22	0.82[J]	1.1[J]	**48**
MW-5	6.3[J,B]	0.29[J]	**2.4**	2.0	<1.8	4.6[J,B]	**150**	0.29[J]	2.6	1.6[J]	**84**
MW-6	<6.1	<0.27	**3.1**	2.4	<1.8	3.9[J,B]	**150**	<0.22	3.4	1.1[J]	**75**
MW-7	9.8[J,B]	<0.27	<0.42	0.71[J]	<1.8	3.6[J,B]	**50**	<0.22	0.41[J]	<0.54	**17**
MW-8	10[B]	<0.27	**0.79**	1.1	<1.8	4.2[J,B]	**160**	1.6	0.97[J]	2.2[J]	**58**

Note: [1] US EPA MCL
[2] California Primary MCL
[B] Analyte was present in the associated method blank and the result is considered not to have originated from the native sample.
[J] Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated
MCL = Maximum contaminant level
NA = Not available

5.2 EMERGENT CHEMICALS ANALYTICAL RESULTS

Groundwater samples collected from the six (6) groundwater monitoring wells were analyzed for 1,4-dioxane, NDMA, and 1,2,3-TCP. A summary of the analytical results is presented in Table 5-2 and discussed below:

- **1,4-Dioxane** was not detected in any of the groundwater samples above the laboratory method detection limit of 0.40 µg/L.
- **NDMA** was not detected in any of the groundwater samples above the laboratory method detection limit of 0.00048 µg/L.
- **1,2,3-TCP** was detected in all six (6) groundwater samples with concentrations ranging from 0.016 ug/L (MW-7) to 0.19 µg/L (MW-6).

A review of the emergent chemical analytical data reveals that 1,2,3-TCP was detected above its CDWNL of 0.005 µg/L in all six (6) groundwater samples.

Table 5-2
Emergent Chemicals Analytical Results
(Reported in µg/L)

Well ID	1,4-Dioxane by EPA Method 8270 SIM	NDMA by EPA Method 1625C(M)	1,2,3-TCP by EPA Method 504.1
CDWNL	**3**	**0.01**	**0.005**
MW-3	<0.40	<0.00048	**0.044**
MW-4	<0.40	<0.00048	**0.028**
MW-4D	<0.40	<0.00048	**0.027**
MW-5	<0.40	<0.00048	**0.14**
MW-6	<0.40	<0.00048	**0.19**[B]
MW-7	<0.40	<0.00048	**0.016**
MW-8	<0.40	<0.00048	**0.068**

Note: CDWNL = California Drinking Water Notification Level
NDMA = N-Nitrosodimethylamine
1,2,3-TCP = 1,2,3-Tricloropropane
MCL = Maximum contaminant level
[B] Analyte was present in the associated method blank.

5.3 DISSOLVED IRON AND MANGANESE ANALYTICAL RESULTS

Groundwater samples collected from six (6) groundwater monitoring wells were analyzed for dissolved iron and manganese. A summary of the analytical results are presented in Table 5-3 and discussed below.

- **Dissolved Iron** was estimated in all six (6) groundwater samples with concentrations ranging from 0.0172 mg/L (MW-3) to 0.0342 mg/L (MW-4).
- **Dissolved Manganese** was detected in all six (6) groundwater samples with concentrations ranging from 0.00184 mg/L (MW-7)to 0.00497 mg/L (MW-4).

A review of the dissolved iron and manganese analytical results reveal that groundwater samples did not contain concentrations that exceeded their respective MCL.

Table 5-3
Dissolved Metals Analytical Results
EPA Method 6010B/7470A
(Reported in mg/L)

Well ID	Iron	Manganese
MCL	0.3 [1]	0.05 [1]
MW-3	0.0172[J]	0.00432
MW-4	0.0342[J]	0.00497
MW-4D	0.0246[J]	0.00488
MW-5	0.0301[J]	0.00261
MW-6	0.0260[J]	0.00439
MW-7	0.0210[J]	0.00184
MW-8	0.0196[J]	0.00235

Note: [1] US EPA MCL
[B] Analyte was present in the associated method blank.
[J] Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
MCL = Maximum Contaminant Level.

5.4 INORGANIC ANALYTICAL RESULTS

Groundwater samples collected from six (6) groundwater monitoring wells were analyzed for hexavalent chromium, perchlorate, anions, dissolved oxygen and other constituents. A summary of the analytical results are presented in Table 5-4 and discussed below:

- **Hexavalent Chromium** was detected in all six (6) groundwater samples at concentrations ranging from 0.0014 mg/L (MW-7) to 0.0029 mg/L (MW-6).
- **Chloride** was detected in all six (6) groundwater samples with concentrations ranging from 37 mg/L (MW-5) to 41 mg/L (MW-3).
- **Nitrite** was not detected in any of the groundwater samples above the laboratory reporting limit.
- **Nitrate** was detected in all six (6) groundwater samples with concentrations ranging from 10 mg/L (MW-7) to 16 mg/L (MW-4).
- **Sulfate** was detected in all six (6) groundwater samples with concentrations ranging from 67 mg/L (MW-7) to 75 mg/L (MW-5).
- **Sulfide** was not detected in any of the groundwater samples above the laboratory reporting limit.
- **Perchlorate** was estimated in all six (6) groundwater samples with concentrations ranging from 0.00056 mg/L (MW-6) to 0.00099 mg/L (MW-5).

- **Dissolved Oxygen** was detected in all six (6) groundwater samples with concentrations ranging from 7.41 mg/L (MW-3) to 8.17 mg/L (MW-6).

A review of the inorganic analytical data reveals that nitrate equaled or exceeded the California drinking water notification level of 10 mg/L. Hexavalent chromium was not detected above the regulatory action level of 0.05 mg/L in all six (6) groundwater samples.

Table 5-4
Inorganic Analytical Results
(Reported in mg/L)

Well ID	Hexavalent Chromium	Chloride	Nitrite	Nitrate	Sulfate	Sulfide	Perchlorate	Dissolved Oxygen
Regulatory Action Level	**0.05** [1]	**250** [2]	**1** [2]	**10** [2]	**250** [2]	**NA**	**0.006** [3]	**NA**
MW-3	0.0016[B]	41	<0.015	**13**	71	<0.042	0.00075[J]	7.41
MW-4	0.0015[B]	40	<0.015	**16**	72	<0.042	0.00058[J]	7.89
MW-4D	0.0015[B]	44	<0.015	**12**	73	<0.042	0.00071[J]	7.82
MW-5	0.0017[B]	37	<0.015	**13**	75	<0.042	0.00099[J]	7.36
MW-6	0.0029[B]	38	<0.015	**13**	74	<0.042	0.00056[J]	8.17
MW-7	0.0014[B]	38	<0.015	**10**	67	<0.042	0.00059[J]	7.71
MW-8	0.0015[B]	40	<0.015	**12**	73	<0.042	0.00076[J]	7.54

Note: [1] Hexavalent chromium currently regulated using MCL for total chromium
[2] California Secondary MCL
[3] California Drinking Water Notification Level
[B] Analyte was present in the associated method blank. However, the method blank concentrations are below the EPA validation criteria for hexavalent chromium. Report value is not affected.
[J] Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
NA = Not available.

5.5 CATION ANALYTICAL RESULTS

Groundwater samples collected from six (6) groundwater monitoring wells were analyzed for cations. A summary of the analytical results is presented in Table 5-5 and discussed below:

- **Calcium** was detected in all six (6) groundwater samples (MW-3 through MW-8) at concentrations ranging from 98.3 mg/L (MW-8) to 112 mg/L (MW-6).

- **Magnesium** was detected in all six (6) groundwater samples (MW-3 through MW-8) with concentrations ranging from 29.9 mg/L (MW-5) to 34.4 mg/L (MW-7).
- **Potassium** was detected in all six (6) groundwater samples (MW-3 through MW-8) with concentrations ranging from 5.45 mg/L (MW-7) to 5.87 mg/L (MW-3 and MW-6).
- **Sodium** was detected in all six (6) groundwater samples (MW-3 through MW-8) with concentrations ranging from 36.6 mg/L (MW-5) to 38.8 mg/L (MW-3).

California drinking water notification levels and MCLs have not been established for cations.

Table 5-5
Cations Analytical Results
EPA Method 6010
(Reported in mg/L)

Well ID	Calcium	Magnesium	Potassium	Sodium
MW-3	107	32.7	5.87[B]	38.8[B]
MW-4	104[E]	33.7	5.56	37.9
MW-4D	104	33.4[B]	5.41	37.4
MW-5	109	29.9[B]	5.66	36.6
MW-6	112	30.8[B]	5.87	37.0
MW-7	98.3	34.4	5.45[B]	37.9[B]
MW-8	104	33.3	5.74[B]	37.7[B]

Note: [B] Analyte was present in the associated method blank
[E] Concentration exceeds the calibration range

5.6 TITLE 22 METAL ANALYTICAL RESULTS

Groundwater samples collected from six (6) groundwater monitoring wells were analyzed for Title 22 metals. A summary of the analytical results are presented in Table 5-6 and only metal analytes detected above the laboratory reporting limit are listed below:

- **Barium** was detected in all six (6) groundwater samples with concentrations ranging from 135 µg/L (MW-5) to 146 µg/L (MW-4 and MW-7).
- **Cadmium** was estimated in one (1) groundwater sample (MW-6) with a concentration of 1.22 µg/L.

- **Chromium** was detected in all six (6) groundwater samples (MW-3 through MW-8) with concentrations ranging from 5.61 µg/L (MW-4) to 7.93 µg/L (MW-6).
- **Cobalt** was estimated in three (3) groundwater samples (MW-3, MW-7, and MW-8) with concentrations of 1.97 µg/L, 1.71 µg/L and 1.94 µg/L, respectively.
- **Nickel** was estimated in three (3) groundwater samples (MW-3, MW-7, and MW-8) with concentrations of 3.65 µg/L, 3.38 µg/L and 2.39 µg/L, respectively.
- **Selenium** was estimated in three (3) groundwater samples (MW-4D, MW-5, and MW-6) with concentrations of 8.31 µg/L, 3.93 µg/L and 3.75 µg/L, respectively.
- **Thallium** was estimated in four (4) groundwater samples (MW-3 through MW-6) with concentrations ranging from 3.21 µg/L (MW-3) to 11.2 µg/L (MW-6).
- **Vanadium** was estimated in all six (6) groundwater samples with concentrations ranging from 3.26 µg/L (MW-3) to 4.77 µg/L (MW-4).
- **Zinc** was detected in all six (6) groundwater samples with concentrations ranging from 85.0 µg/L (MW-4) to 181 µg/L (MW-6).

A review of analytical results for metals shows that they are all below their respective MCL with exception of thallium.

Table 5-6
Title 22 Metals Analytical Results
EPA Method 6010B/7470A
(Reported in µg/L)

Well ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Total Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
MCL	**6**	**10**	**1000**	**4**	**5**	**50**	**NA**	**1000**	**15**	**2**	**NA**	**100**	**50**	**100**	**2**	**NA**	**5,000**
MW-3	<2.09	<3.08	141	<0.176	<0.350	7.41[B]	1.97[J,B]	<1.34	<2.36	<0.0672	<0.800	3.65[J,B]	<2.95	<0.400	3.21[J]	3.26[J]	110
MW-4	<2.09	<3.08	146	<0.176	<0.350	5.61	<0.696	<1.34	<2.36	<0.0672	<0.800	<1.37	<2.95	<0.400	6.94[J]	4.77[J]	85.0
MW-4D	<2.09	<3.08	145	<0.176	<0.350	6.22	<0.696	<1.34	<2.36	<0.0672	<0.800	<1.37	8.31[J,B]	<0.400	5.94[J,B]	4.67[J]	122
MW-5	<2.09	<3.08	135	<0.176	<0.350	6.48	<0.696	<1.34	<2.36	<0.0672	<0.800	<1.37	3.93[J,B]	<0.400	4.98[J,B]	3.53[J]	144
MW-6	<2.09	<3.08	143	<0.176	1.22[J]	7.93	<0.696	<1.34	<2.36	<0.0672	<0.800	<1.37	3.75[J,B]	<0.400	11.2[J,B]	4.31[J]	181
MW-7	<2.09	<3.08	146	<0.176	<0.350	6.41[B]	1.71[J,B]	<1.34	<2.36	<0.0672	<0.800	3.38[J,B]	<2.95	<0.400	<2.33	3.93[J]	110
MW-8	<2.09	<3.08	145	<0.176	<0.350	6.50[B]	1.94[J,B]	<1.34	<2.36	<0.0672	<0.800	2.39[J,B]	<2.95	<0.400	<2.33	3.50[J]	93.7

Note:
* California Drinking Water Notification Level
[B] Analyte was present in the associated method blank
[J] Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
MCL = Maximum contaminant level
NA = Not available

5.7 DATA VERIFICATION AND VALIDATION

Laboratory data underwent verification and validation including laboratory control samples (LCS), matrix spike duplicates (MSD), and method blanks. All samples received by the laboratory were analyzed within holding times specified by USEPA SW-846. Appendix C presents a summary of the quality control and quality assurance (QA/QC).

SECTION 6
REFERENCES

6.0 REFERENCES

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APPENDIX A
FIELD DATA
LOG SHEETS

APPENDIX A

FIELD DATA LOG SHEETS

TABLE 1

List of Groundwater Monitoring Wells for for the 2006 Groundwater Monitoring Program
Burbank Operable Unit

WATER LEVELS MEASUREMENT FOR PAC WELLS

	Well ID	Hydrostratigraphic Unit Screened	Measuring Point Elevation (feet MSL)	MARCH 2006 Depth to Water (feet)	JUNE 2006 Depth to Water (feet)	Date	Time	Current Well Conditions	
1	MW-1	B		Dry	D	R	Y	257'-TD	Dry
2	MW-2	X/A(wt)		Dry	Dry			265'-TD	Dry
3	MW-3	X/A(wt)		244.3	241.52	6/2/16	1230		
4	MW-4	X(wt)		230.6	227.61	6/6/06	1129		
5	MW-5	B		232.28	229.67	6/6/06	1141		
6	MW-6	A'/X(wt)		230.75	227.96	6/6/06	1049		
7	MW-7	A'/X(wt)		228.3	225.61	6/6/06	1101		
8	MW-8	A'/X(wt)		233.81	227.25	6/6/06	1115		

TETRA TECH, INC.
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Fax (626) 351-5291

WELL PURGING FORM
Date: 6/20/06

TC#: 17653-0602
Project: Burbank PAC WELLS
Client: Lockheed Martin Corporation

Sampler: NORMAN NG

Monitoring Well ID: MW-3
Duplicate ID: —
Well Diameter: 4"
Pump Specs.: 3/4 hp / 230v / 3in / no control box
Sample Time: 1153

Static Water Level (ft btoc): 241.56
Total Well Depth (ft): 284.50
Water Column (ft): 43.00
TOC to ground surface (ft):
TOC = top of casing (at notch/mark)

WELL PURGING:

43.00 (water column) x 0.645 (multiplier) = 27.7 gals (1 casing volume)

27.7 gals (1 casing volume) x 3 vols (no. of volumes to purge) = 83 gals (total volume to purge)

Note: water column x multiplier = casing volume

Notes: FLOW RATE ~~30~~ 3.4 GPM
intake at 265'
with Gregg Drilling

TIME	TEMP (DEG C°)	EC	pH	TURBIDITY and COLOR	SALINITY	DO	TOTAL GAL. PURGED
1121	23.5	0.94	6.88	31	0.04	6.65	0
1124	21.2	0.94	6.87	25	0.04	5.78	10
1129	21.3	0.94	6.86	22	0.04	5.54	20
1130	21.4	0.94	6.86	20	0.04	5.50	30
1133	21.3	0.94	6.85	19	0.04	5.55	40
1136	21.3	0.93	6.85	8	0.04	5.76	50
1139	21.3	0.94	6.85	4	0.04	5.56	60
1142	21.3	0.94	6.85	3	0.04	5.46	70
1145	21.3	0.94	6.85	3	0.04	5.42	80
1147	21.3	0.94	6.85	2	0.04	5.45	84

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WELL PURGING FORM
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TC#: 17653-0602

Page 1 of 1

Project: Burbank PAC WELLS

Client: Lockheed Martin Corporation

Sampler Norman NG

Monitoring Well ID:	MW-4	Static Water Level (ft btoc):	227.36
Duplicate ID:	MW-4D, MS/MSD	Total Well Depth (ft):	264.50
Well Diameter:	4"	Water Column (ft):	37.14
Pump Specs.:	3/4 hp / 230V (NO control box)	TOC to ground surface (ft):	
Sample Time:	1329 1339 D/MS/MSD	TOC = top of casing (at notch/mark)	"

WELL PURGING:

37.14 (water column) x 0.645 (multiplier) = 24 gals (1 casing volume)

24 gals (1 casing volume) x 3 vols (no. of volumes to purge) = 72 gals (total volume to purge)

Note: water column x multiplier = casing volume

Notes: Flow rate ~4.5 GPM with Greg Drilling. Intake at 245'

TIME	TEMP (DEG C°)	EC	pH	TURBIDITY and COLOR	SALINITY	DO	TOTAL GAL. PURGED
1309	21.3	0.93	6.94	195	0.04	5.09	0
1311	20.8	0.92	6.93	165	0.04	4.29	9
1313	20.9	0.742	6.93	34	0.03	4.73	18
1315	21.0	0.742	6.92	24	0.03	4.49	27
1317	21.0	0.743	6.92	19	0.03	4.36	36
1319	21.0	0.747	6.91	19	0.03	5.03	45
1321	21.0	0.746	6.91	7	0.03	4.69	54
1323	21.0	0.748	6.92	5	0.03	4.71	63
1325	21.0	0.746	6.90	7	0.03	4.37	72

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WELL PURGING FORM
Date: 6/19/06

TC#: 17653-0602

Project: Burbank PAC WELLS

Client: Lockheed Martin Corporation

Sampler: Norman Ng

Monitoring Well ID:	MW-5	Static Water Level (ft btoc):	229.09
Duplicate ID:	0	Total Well Depth (ft):	269.50
Well Diameter:	4"	Water Column (ft):	40.41
Pump Specs.:	3/4 hp / 230 V (no control box)	TOC to ground surface (ft):	
Sample Time:	1205	TOC = top of casing (at notch/mark)	

WELL PURGING:

40.40 (water column) x 0.645 (multiplier) = 26 gals (1 casing volume)

26 gals (1 casing volume) x 3 vols (no. of volumes to purge) = 78 gals (total volume to purge)

Note: water column x multiplier = casing volume

Notes: with Greg Drilling
Flow rate = 5 GPM
Intake at 250'

TIME	TEMP (DEG C°)	EC	pH	TURBIDITY and COLOR	SALINITY	DO	TOTAL GAL. PURGED
~~1144~~	23.0	.95	18	6.93	0.04	5.62	0
1146	22.8	.91	6.93	16	0.04	5.00	10
1148	21.5	.92	6.92	17	0.04	4.74	20
1150	21.0	.743	6.94	14	0.04	5.17	30
1152	21.0	.743	6.93	1.4	0.03	4.70	40
1154	20.9	.745	6.92	8	0.03	5.21	50
1156	20.8	.746	6.92	8	0.03	5.22	60
1158	20.8	.746	6.92	8	0.03	5.17	70
1200	20.9	.744	6.93	6	0.03	4.99	80

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WELL PURGING FORM
Date: 6/19/06

TC#: 17653-0602

Project: Burbank PAC WELLS

Client: Lockheed Martin Corporation

Sampler: Norman Ng

Monitoring Well ID:	MW-6	Static Water Level (ft btoc):	227.80
Duplicate ID:	—	Total Well Depth (ft):	265.00
Well Diameter:	4"	Water Column (ft):	39.20
Pump Specs.:	3/4 hp / 230 (no control box)	TOC to ground surface (ft):	
Sample Time:	0945	TOC = top of casing (at notch/mark)	

WELL PURGING:

37.20 (water column) x 0.645 (multiplier) = 24 gals (1 casing volume)

24 gals (1 casing volume) x 3 vols (no. of volumes to purge) = 72 gals (total volume to purge)

Note: water column x multiplier = casing volume

Notes: With Greg Drilling.
Flow rate ~4.5 GPM
Intake at 245'

TIME	TEMP (DEG C°)	EC	pH	TURBIDITY and COLOR	SALINITY	DO	TOTAL GAL. PURGED
0923	20.7	.97	6.82	47	0.04	6.31	0
0925	20.6	.97	6.84	48	0.04	5.40	9
0927	20.7	.94	6.86	16	0.04	5.50	18
0929	20.7	.93	6.87	10	0.04	5.27	27
0931	20.8	0.93	6.87	8	0.04	5.21	36
0933	20.8	0.93	6.87	3	0.04	5.17	45
0935	20.8	0.92	6.88	1	0.04	5.14	54
0937	20.8	0.92	6.88	0	0.04	5.14	63
0939	20.8	0.92	6.88	0	0.04	5.15	72

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WELL PURGING FORM
Date: 6/20/06

TC#: 17653-0602

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Project: Burbank PAC WELLS

Client: Lockheed Martin Corporation

Sampler Norman Ng

Monitoring Well ID:	MW-7	Static Water Level (ft btoc):	225.6
Duplicate ID:	—	Total Well Depth (ft):	260.0
Well Diameter:	4"	Water Column (ft):	34.4
Pump Specs.:	3/4 hp 230V (NO control box)	TOC to ground surface (ft):	
Sample Time:	1018	TOC = top of casing (at notch/mark)	

WELL PURGING:

34.4 (water column) x 0.645 (multiplier) = 22.2 gals (1 casing volume)

22.2 gals (1 casing volume) x 3 vols (no. of volumes to purge) = 66.6 gals (total volume to purge)

Note: water column x multiplier = casing volume

Notes: FLOW RATE ~ 3.5 GPM
intake at 250'

TIME	TEMP (DEG C°)	EC	pH	TURBIDITY and COLOR	SALINITY	DO	TOTAL GAL PURGED
0949	21.5	0.91	6.91	128	0.04	6.46	8
0952	21.0	0.738	6.86	120	0.03	5.78	10
0955	21.1	.735	6.88	88	0.03	5.73	20
0958	21.1	.735	6.88	76	0.03	5.71	30
1001	21.1	.740	6.88	64	0.03	5.81	40
1004	21.1	.738	6.87	22	0.03	5.78	50
1007	21.1	.737	6.87	10	0.03	5.86	60
1010	21.1	.738	6.87	6	0.04	5.73	70 ~~63~~
							~~67~~

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WELL PURGING FORM
Date: 6/20/06

TC#: 17653-0602

Project: Burbank PAC WELLS

Client: Lockheed Martin Corporation

Sampler: NORMAN NG

Monitoring Well ID:	MW-8	Static Water Level (ft btoc):	233.81
Duplicate ID:	—	Total Well Depth (ft):	268.00
Well Diameter:	4"	Water Column (ft):	34.20
Pump Specs.:	3/4 hp / 230 volt (NO control Box)	TOC to ground surface (ft):	
Sample Time:	0829	TOC = top of casing (at notch/mark)	

WELL PURGING:

34.20 (water column) x 0.645 (multiplier) = 22 gals (1 casing volume)

22 gals (1 casing volume) x 3 vols (no. of volumes to purge) = 66 gals (total volume to purge)

Note: water column x multiplier = casing volume

Notes: FLOW RATE – 3 GPM
intake at 255'

TIME	TEMP (DEG C°)	EC	pH	TURBIDITY and COLOR	SALINITY	DO	TOTAL GAL PURGED
0801	20.7	.728	6.76	183	0.04	7.78	0
0804	20.4	.734	6.82	157	0.03	5.49	9
0807	20.8	.732	6.83	28	0.03	5.35	18
0810	21.0	.733	6.84	20	0.03	5.31	27
0813	21.1	.732	6.85	12	0.03	5.46	36
0816	21.3	.733	6.85	6	0.03	5.49	45
0819	21.3	.734	6.85	4	0.03	5.49	54
0822	21.3	.734	6.85	4	0.03	5.47	63
0823	21.3	.734	6.85	4	0.03	5.48	66

APPENDIX B
LAB ANALYTICAL
DATA REPORTS

APPENDIX B

LABORATORY ANALYTICAL DATA REPORTS

Calscience
Environmental
Laboratories, Inc.

ACCREDITED IN ACCORDANCE WITH nelac

July 03, 2006

Neil Shukla
Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Subject: **Calscience Work Order No.:** **06-06-1183**
Client Reference: **BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 6/19/2006 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Calscience Environmental
Laboratories, Inc.
Jason Torres
Project Manager

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 06/19/06
Work Order No: 06-06-1183
Preparation: EPA 3005A Filt. / EPA 7470A Filt.
Method: EPA 6010B / EPA 7470A
Units: mg/L

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-6	06-06-1183-2	06/19/06	Aqueous	06/20/06	06/21/06	060620L03F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.
-Mercury was analyzed on 6/20/2006 3:47:08 PM with batch 060620L02F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Antimony	ND	0.0150	0.00209	1		Mercury	ND	0.000500	0.0000672	1	
Arsenic	ND	0.0100	0.00308	1		Molybdenum	ND	0.00500	0.000800	1	
Barium	0.143	0.010	0.000719	1		Nickel	ND	0.00500	0.00137	1	
Beryllium	ND	0.00100	0.000176	1		Selenium	0.00375	0.0150	0.00295	1	J,B
Cadmium	0.00122	0.00500	0.000350	1	J	Silver	ND	0.00500	0.000400	1	
Chromium	0.00793	0.00500	0.000350	1		Thallium	0.0112	0.0150	0.00233	1	J,B
Cobalt	ND	0.00500	0.000696	1		Vanadium	0.00431	0.00500	0.000314	1	J
Copper	ND	0.00500	0.00134	1		Zinc	0.181	0.010	0.000848	1	
Lead	ND	0.0100	0.00236	1							

MW-5	06-06-1183-3	06/19/06	Aqueous	06/20/06	06/21/06	060620L03F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.
-Mercury was analyzed on 6/20/2006 3:49:22 PM with batch 060620L02F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Antimony	ND	0.0150	0.00209	1		Mercury	ND	0.000500	0.0000672	1	
Arsenic	ND	0.0100	0.00308	1		Molybdenum	ND	0.00500	0.000800	1	
Barium	0.135	0.010	0.000719	1		Nickel	ND	0.00500	0.00137	1	
Beryllium	ND	0.00100	0.000176	1		Selenium	0.00393	0.0150	0.00295	1	J,B
Cadmium	ND	0.00500	0.000350	1		Silver	ND	0.00500	0.000400	1	
Chromium	0.00648	0.00500	0.000350	1		Thallium	0.00498	0.0150	0.00233	1	J,B
Cobalt	ND	0.00500	0.000696	1		Vanadium	0.00353	0.00500	0.000314	1	J
Copper	ND	0.00500	0.00134	1		Zinc	0.144	0.010	0.000848	1	
Lead	ND	0.0100	0.00236	1							

MW-4	06-06-1183-4	06/19/06	Aqueous	06/20/06	06/21/06	060620L03F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.
-Mercury was analyzed on 6/20/2006 3:51:36 PM with batch 060620L02F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Antimony	ND	0.0150	0.00209	1		Mercury	ND	0.000500	0.0000672	1	
Arsenic	ND	0.0100	0.00308	1		Molybdenum	ND	0.00500	0.000800	1	
Barium	0.146	0.010	0.000719	1		Nickel	ND	0.00500	0.00137	1	
Beryllium	ND	0.00100	0.000176	1		Selenium	ND	0.0150	0.00295	1	
Cadmium	ND	0.00500	0.000350	1		Silver	ND	0.00500	0.000400	1	
Chromium	0.00561	0.00500	0.000350	1		Thallium	0.00694	0.0150	0.00233	1	J
Cobalt	ND	0.00500	0.000696	1		Vanadium	0.00477	0.00500	0.000314	1	J
Copper	ND	0.00500	0.00134	1		Zinc	0.0850	0.0100	0.000848	1	
Lead	ND	0.0100	0.00236	1							

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 06/19/06
Work Order No: 06-06-1183
Preparation: EPA 3005A Filt. / EPA 7470A Filt.
Method: EPA 6010B / EPA 7470A
Units: mg/L
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Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-4D	06-06-1183-5	06/19/06	Aqueous	06/20/06	06/21/06	060620L03F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.
-Mercury was analyzed on 6/20/2006 3:58:21 PM with batch 060620L02F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Antimony	ND	0.0150	0.00209	1		Mercury	ND	0.000500	0.0000672	1	
Arsenic	ND	0.0100	0.00308	1		Molybdenum	ND	0.00500	0.000800	1	
Barium	0.145	0.010	0.000719	1		Nickel	ND	0.00500	0.00137	1	
Beryllium	ND	0.00100	0.000176	1		Selenium	0.00831	0.0150	0.00295	1	J,B
Cadmium	ND	0.00500	0.000350	1		Silver	ND	0.00500	0.000400	1	
Chromium	0.00622	0.00500	0.000350	1		Thallium	0.00594	0.0150	0.00233	1	J,B
Cobalt	ND	0.00500	0.000696	1		Vanadium	0.00467	0.00500	0.000314	1	J
Copper	ND	0.00500	0.00134	1		Zinc	0.122	0.010	0.000848	1	
Lead	ND	0.0100	0.00236	1							

Method Blank	099-04-008-2,541	N/A	Aqueous	06/20/06	06/20/06	060620L02F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual
Mercury	ND	0.000500		1	

Method Blank	097-01-003-6,215	N/A	Aqueous	06/20/06	06/21/06	060620L03F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Antimony	ND	0.0150	0.00209	1		Lead	ND	0.0100	0.00236	1	
Arsenic	0.00391	0.0100	0.00308	1	J	Molybdenum	ND	0.00500	0.000800	1	
Barium	ND	0.0100	0.000719	1		Nickel	0.00394	0.00500	0.00137	1	J
Beryllium	ND	0.00100	0.000176	1		Selenium	0.00502	0.0150	0.00295	1	J
Cadmium	ND	0.00500	0.000350	1		Silver	ND	0.00500	0.000400	1	
Chromium	ND	0.00500	0.000350	1		Thallium	0.00431	0.0150	0.00233	1	J
Cobalt	ND	0.00500	0.000696	1		Vanadium	ND	0.00500	0.000314	1	
Copper	ND	0.00500	0.00134	1		Zinc	ND	0.0100	0.000848	1	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

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Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 06/19/06
Work Order No: 06-06-1183
Preparation: EPA 3005A Filt.
Method: EPA 6010B
Units: mg/L

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602 — Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-6	06-06-1183-2	06/19/06	Aqueous	06/20/06	06/21/06	060620L03F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Calcium	112	0.100	0.00932	1		Potassium	5.87	0.50	0.0561	1	
Magnesium	30.8	0.1	0.00328	1	B	Sodium	37.0	0.5	0.0192	1	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-5	06-06-1183-3	06/19/06	Aqueous	06/20/06	06/21/06	060620L03F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Calcium	109	0.100	0.00932	1		Potassium	5.66	0.50	0.0561	1	
Magnesium	29.9	0.1	0.00328	1	B	Sodium	36.6	0.5	0.0192	1	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-4	06-06-1183-4	06/19/06	Aqueous	06/20/06	06/21/06	060620L03F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Calcium	104	0.100	0.00932	1	E	Potassium	5.56	0.50	0.0561	1	
Magnesium	33.7	0.1	0.00328	1		Sodium	37.9	0.5	0.0192	1	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-4D	06-06-1183-5	06/19/06	Aqueous	06/20/06	06/21/06	060620L03F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Calcium	104	0.100	0.00932	1		Potassium	5.41	0.50	0.0561	1	
Magnesium	33.4	0.1	0.00328	1	B	Sodium	37.4	0.5	0.0192	1	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	097-01-003-6,215	N/A	Aqueous	06/20/06	06/21/06	060620L03F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Calcium	ND	0.100	0.00932	1		Potassium	ND	0.500	0.0561	1	
Magnesium	0.0152	0.100	0.00328	1	J	Sodium	ND	0.500	0.0192	1	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

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Tetra Tech, Inc.	Date Received:	06/19/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-06-1183
Pasadena, CA 91107-6024	Preparation:	EPA 3005A Filt.
	Method:	EPA 200.8
	Units:	mg/L

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602 — Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-6	06-06-1183-2	06/19/06	Aqueous	06/21/06	06/21/06	060621L01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Iron	0.0260	0.100	0.00214	1	J	Manganese	0.00439	0.00100	0.0000189	1	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-5	06-06-1183-3	06/19/06	Aqueous	06/21/06	06/21/06	060621L01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Iron	0.0301	0.100	0.00214	1	J	Manganese	0.00261	0.00100	0.0000189	1	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-4	06-06-1183-4	06/19/06	Aqueous	06/21/06	06/21/06	060621L01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Iron	0.0342	0.100	0.00214	1	J	Manganese	0.00497	0.00100	0.0000189	1	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-4D	06-06-1183-5	06/19/06	Aqueous	06/21/06	06/21/06	060621L01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Iron	0.0246	0.100	0.00214	1	J	Manganese	0.00488	0.00100	0.0000189	1	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-10-008-736	N/A	Aqueous	06/21/06	06/21/06	060621L01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Iron	ND	0.100	0.00214	1		Manganese	ND	0.00100	0.0000189	1	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 06/19/06
Work Order No: 06-06-1183
Preparation: EPA 3520B
Method: EPA 8270C(M) Isotope Dilution

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-6	06-06-1183-2	06/19/06	Aqueous	06/22/06	06/28/06	060622L01D

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
1,4-Dioxane	ND	2.0	0.40	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Nitrobenzene-d5	80	56-123				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-5	06-06-1183-3	06/19/06	Aqueous	06/22/06	06/28/06	060622L01D

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
1,4-Dioxane	ND	2.0	0.40	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Nitrobenzene-d5	82	56-123				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-4	06-06-1183-4	06/19/06	Aqueous	06/22/06	06/28/06	060622L01D

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
1,4-Dioxane	ND	2.0	0.40	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Nitrobenzene-d5	78	56-123				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-4D	06-06-1183-5	06/19/06	Aqueous	06/22/06	06/28/06	060622L01D

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
1,4-Dioxane	ND	2.0	0.40	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Nitrobenzene-d5	67	56-123				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-09-004-596	N/A	Aqueous	06/20/06	06/27/06	060620L14D

Parameter	Result	RL	MDL	DF	Qual	Units
1,4-Dioxane	ND	2.0		1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Nitrobenzene-d5	87	56-123				

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.	Date Received:	06/19/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-06-1183
Pasadena, CA 91107-6024	Preparation:	EPA 3520B
	Method:	EPA 8270C(M) Isotope Dilution

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602 — Page 2 of 2

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-09-004-597	N/A	Aqueous	06/22/06	06/27/06	060622L01D

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
1,4-Dioxane	ND	2.0	0.40	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Nitrobenzene-d5	76	56-123				

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	06/19/06
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1183
Pasadena, CA 91107-6024		Preparation:	EPA 3520B
		Method:	EPA 1625CM

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602 — Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-6	06-06-1183-2	06/19/06	Aqueous	06/23/06	06/27/06	060623L09

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
N-Nitrosodimethylamine	ND	2.0	0.48	1		ng/L
Surrogates:	REC (%)	Control Limits			Qual	
1,4-Dichlorobenzene-d4	56	50-130				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-5	06-06-1183-3	06/19/06	Aqueous	06/23/06	06/27/06	060623L09

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
N-Nitrosodimethylamine	ND	2.0	0.48	1		ng/L
Surrogates:	REC (%)	Control Limits			Qual	
1,4-Dichlorobenzene-d4	53	50-130				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-4	06-06-1183-4	06/19/06	Aqueous	06/23/06	06/27/06	060623L09

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
N-Nitrosodimethylamine	ND	2.0	0.48	1		ng/L
Surrogates:	REC (%)	Control Limits			Qual	
1,4-Dichlorobenzene-d4	55	50-130				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-4D	06-06-1183-5	06/19/06	Aqueous	06/23/06	06/27/06	060623L09

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
N-Nitrosodimethylamine	ND	2.0	0.48	1		ng/L
Surrogates:	REC (%)	Control Limits			Qual	
1,4-Dichlorobenzene-d4	59	50-130				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-07-027-251	N/A	Aqueous	06/23/06	06/27/06	060623L09

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
N-Nitrosodimethylamine	ND	2.0	0.48	1		ng/L
Surrogates:	REC (%)	Control Limits			Qual	
1,4-Dichlorobenzene-d4	54	50-130				

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.	Date Received:	06/19/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-06-1183
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	ug/L
Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602		Page 1 of 8

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
LTB061906	06-06-1183-1	06/19/06	Aqueous	06/22/06	06/23/06	060622L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	6.4	10.0	6.1	1	J,B	1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	ND	1.0	0.27	1		t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	6.1	10.0	2.6	1	J,B
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	ND	0.50	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	ND	1.0	0.22	1		1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	ND	1.0	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	ND	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	0.54	1	
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	ND	1.0	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	ND	0.50	0.22	1		Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	ND	1.0	0.31	1		Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Dibromofluoromethane	116	74-140				1,2-Dichloroethane-d4	114	74-146			
Toluene-d8	99	88-112				1,4-Bromofluorobenzene	80	74-110			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 06/19/06
Work Order No: 06-06-1183
Preparation: EPA 5030B
Method: EPA 8260B
Units: ug/L

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-6	06-06-1183-2	06/19/06	Aqueous	06/22/06	06/23/06	060622L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	ND	10	6.1	1		1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	ND	1.0	0.27	1		t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	3.9	10.0	2.6	1	J,B
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	3.1	0.5	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	2.4	1.0	0.22	1		1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	150	1	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	ND	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	1.1	10.0	0.54	1	J
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	75	1	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	ND	0.50	0.22	1		Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	3.4	1.0	0.31	1		Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	116	74-140		1,2-Dichloroethane-d4	116	74-146	
Toluene-d8	100	88-112		1,4-Bromofluorobenzene	79	74-110	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.	Date Received:	06/19/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-06-1183
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	ug/L
Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602		Page 3 of 8

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-5	06-06-1183-3	06/19/06	Aqueous	06/22/06	06/23/06	060622L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	6.3	10.0	6.1	1	J,B	1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	0.29	1.0	0.27	1	J	t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	4.6	10.0	2.6	1	J,B
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	2.4	0.5	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	2.0	1.0	0.22	1		1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	150	1	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	ND	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	1.6	10.0	0.54	1	J
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	84	1	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	0.29	0.50	0.22	1	J	Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	2.6	1.0	0.31	1		Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Dibromofluoromethane	126	74-140				1,2-Dichloroethane-d4	124	74-146			
Toluene-d8	100	88-112				1,4-Bromofluorobenzene	78	74-110			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.	Date Received:	06/19/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-06-1183
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	ug/L

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602 — Page 4 of 8

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-4	06-06-1183-4	06/19/06	Aqueous	06/22/06	06/23/06	060622L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	ND	10	6.1	1		1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	ND	1.0	0.27	1		t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	4.5	10.0	2.6	1	J,B
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	0.81	0.50	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	1.3	1.0	0.22	1		1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	120	1	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	ND	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	1.1	10.0	0.54	1	J
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	48	1	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	ND	0.50	0.22	1		Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	0.64	1.0	0.31	1	J	Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Dibromofluoromethane	125	74-140				1,2-Dichloroethane-d4	126	74-146			
Toluene-d8	99	88-112				1,4-Bromofluorobenzene	78	74-110			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.	Date Received:	06/19/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-06-1183
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	ug/L

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602 — Page 5 of 8

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-4D	06-06-1183-5	06/19/06	Aqueous	06/23/06	06/24/06	060623L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	9.5	10.0	6.1	1	J	1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	ND	1.0	0.27	1		t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	2.9	10.0	2.6	1	J,B
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	0.88	0.50	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	1.2	1.0	0.22	1		1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	120	1	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	ND	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	1.0	10.0	0.54	1	J
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	48	1	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	ND	0.50	0.22	1		Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	0.82	1.0	0.31	1	J	Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	123	74-140		1,2-Dichloroethane-d4	120	74-146	
Toluene-d8	98	88-112		1,4-Bromofluorobenzene	79	74-110	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.	Date Received:	06/19/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-06-1183
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	ug/L

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602 — Page 6 of 8

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
LFB061906	06-06-1183-6	06/19/06	Aqueous	06/22/06	06/23/06	060622L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	14	10	6.1	1	B	1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	ND	1.0	0.27	1		t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	4.5	10.0	2.6	1	J,B
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	ND	0.50	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	ND	1.0	0.22	1		1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	ND	1.0	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	ND	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	0.54	1	
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	ND	1.0	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	ND	0.50	0.22	1		Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	ND	1.0	0.31	1		Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Dibromofluoromethane	123	74-140				1,2-Dichloroethane-d4	120	74-146			
Toluene-d8	98	88-112				1,4-Bromofluorobenzene	81	74-110			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.	Date Received:	06/19/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-06-1183
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	ug/L
Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602		Page 7 of 8

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-10-006-18,334	N/A	Aqueous	06/22/06	06/23/06	060622L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	9.8	10.0	6.1	1	J	1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	ND	1.0	0.27	1		t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	4.1	10.0	2.6	1	J
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	ND	0.50	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	ND	1.0	0.22	1		1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	ND	1.0	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	ND	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	0.54	1	
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	ND	1.0	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	ND	0.50	0.22	1		Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	ND	1.0	0.31	1		Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	112	74-140		1,2-Dichloroethane-d4	110	74-146	
Toluene-d8	97	88-112		1,4-Bromofluorobenzene	81	74-110	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.	Date Received:	06/19/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-06-1183
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	ug/L
Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602		Page 8 of 8

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-10-006-18,349	N/A	Aqueous	06/23/06	06/24/06	060623L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	ND	10	6.1	1		1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	ND	1.0	0.27	1		t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	2.6	10.0	2.6	1	J
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	ND	0.50	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	ND	1.0	0.22	1		1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	ND	1.0	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	ND	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	0.54	1	
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	ND	1.0	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	ND	0.50	0.22	1		Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	ND	1.0	0.31	1		Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	112	74-140		1,2-Dichloroethane-d4	108	74-146	
Toluene-d8	100	88-112		1,4-Bromofluorobenzene	81	74-110	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

EPA 8260B Tentatively Identified Compound List

Work Order	CEL Sample	Client ID	Q	Compound	CAS NUMBER	RT	On Column Conc. ug/L	Estimated Conc. ug/L
06-06-1183	1	LTB061906		No TICs Found				
06-06-1183	2	MW-6		No TICs Found				
06-06-1183	3	MW-5		No TICs Found				
06-06-1183	4	MW-4		No TICs Found				
06-06-1183	5	MW-4D		Pentane	109-66-0	2.69	5.9	5.9
06-06-1183	6	LFB061906		No TICs Found				

Q Qualifier
RT Retention Time

7440 Lincoln Way, Garden Grove, CA 92841-1432 • TEL: (714) 895-5494 • FAX: (714) 894-7501

Calscience Environmental Laboratories, Inc.

Analytical Report

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Tetra Tech, Inc.		Date Received:	06/19/06
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1183
Pasadena, CA 91107-6024		Preparation:	EPA 5030B
		Method:	SRL 524M-TCP

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602 — Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-6	06-06-1183-2	06/19/06	Aqueous	06/21/06	06/22/06	060621L02

Parameter	Result	RL	MDL	DF	Qual	Units
1,2,3-Trichloropropane	0.19	0.02	0.0017	5	B	ug/L

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-5	06-06-1183-3	06/19/06	Aqueous	06/21/06	06/22/06	060621L02

Parameter	Result	RL	MDL	DF	Qual	Units
1,2,3-Trichloropropane	0.14	0.01	0.0033	2		ug/L

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-4	06-06-1183-4	06/19/06	Aqueous	06/21/06	06/22/06	060621L02

Parameter	Result	RL	MDL	DF	Qual	Units
1,2,3-Trichloropropane	0.028	0.005	0.0017	1		ug/L

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-4D	06-06-1183-5	06/19/06	Aqueous	06/21/06	06/22/06	060621L02

Parameter	Result	RL	MDL	DF	Qual	Units
1,2,3-Trichloropropane	0.027	0.005	0.0017	1		ug/L

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-10-022-240	N/A	Aqueous	06/21/06	06/22/06	060621L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
1,2,3-Trichloropropane	ND	0.0050	0.0017	1		ug/L

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-10-022-242	N/A	Aqueous	06/26/06	06/26/06	060626L01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
1,2,3-Trichloropropane	0.0026	0.0050	0.0017	1	J	ug/L

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 06/19/06
Work Order No: 06-06-1183

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Client Sample Number	Lab Sample Number	Date Collected	Matrix
MW-6	06-06-1183-2	06/19/06	Aqueous

Comment(s): (1) Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Chromium, Hexavalent	2.9	0.2	0.0050	1	B	ug/L	N/A	06/19/06	EPA 218.6
Chloride	38	5	0.055	5		mg/L	N/A	06/20/06	EPA 300.0
Nitrite (as N) (1)	ND	0.10	0.015	1		mg/L	N/A	06/20/06	EPA 300.0
Nitrate (as N)	13	0.50	0.028	5		mg/L	N/A	06/20/06	EPA 300.0
Sulfate	74	10	0.069	10		mg/L	N/A	06/20/06	EPA 300.0
Perchlorate (1)	0.56	2.0	0.43	1	J	ug/L	N/A	06/23/06	EPA 314.0
Sulfide, Total (1)	ND	0.050	0.042	1		mg/L	06/22/06	06/22/06	EPA 376.2
Dissolved Oxygen	8.17	0.01		1		mg/L	N/A	06/19/06	SM 4500-O G

Client Sample Number	Lab Sample Number	Date Collected	Matrix
MW-5	06-06-1183-3	06/19/06	Aqueous

Comment(s): (1) Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Chromium, Hexavalent	1.7	0.2	0.0050	1	B	ug/L	N/A	06/19/06	EPA 218.6
Chloride	37	5	0.055	5		mg/L	N/A	06/20/06	EPA 300.0
Nitrite (as N) (1)	ND	0.10	0.015	1		mg/L	N/A	06/20/06	EPA 300.0
Nitrate (as N)	13	0.50	0.028	5		mg/L	N/A	06/20/06	EPA 300.0
Sulfate	75	10	0.069	10		mg/L	N/A	06/20/06	EPA 300.0
Perchlorate (1)	0.99	2.0	0.43	1	J	ug/L	N/A	06/23/06	EPA 314.0
Sulfide, Total (1)	ND	0.050	0.042	1		mg/L	06/22/06	06/22/06	EPA 376.2
Dissolved Oxygen	7.36	0.01		1		mg/L	N/A	06/19/06	SM 4500-O G

Client Sample Number	Lab Sample Number	Date Collected	Matrix
MW-4	06-06-1183-4	06/19/06	Aqueous

Comment(s): (1) Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Chromium, Hexavalent	1.5	0.2	0.0050	1	B	ug/L	N/A	06/19/06	EPA 218.6
Chloride	40	10	0.055	10		mg/L	N/A	06/20/06	EPA 300.0
Nitrite (as N) (1)	ND	0.10	0.015	1		mg/L	N/A	06/20/06	EPA 300.0
Nitrate (as N)	16	0.50	0.028	5		mg/L	N/A	06/20/06	EPA 300.0
Sulfate	72	10	0.069	10		mg/L	N/A	06/20/06	EPA 300.0
Perchlorate (1)	0.58	2.0	0.43	1	J	ug/L	N/A	06/23/06	EPA 314.0
Sulfide, Total (1)	ND	0.050	0.042	1		mg/L	06/22/06	06/22/06	EPA 376.2
Dissolved Oxygen	7.89	0.01		1		mg/L	N/A	06/19/06	SM 4500-O G

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

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Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 06/19/06
Work Order No: 06-06-1183

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Client Sample Number	Lab Sample Number	Date Collected	Matrix
MW-4D	06-06-1183-5	06/19/06	Aqueous

Comment(s): (1) Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Chromium, Hexavalent	1.5	0.2	0.0050	1	B	ug/L	N/A	06/19/06	EPA 218.6
Chloride	44	5	0.055	5		mg/L	N/A	06/20/06	EPA 300.0
Nitrite (as N) (1)	ND	0.10	0.015	1		mg/L	N/A	06/20/06	EPA 300.0
Nitrate (as N)	12	0.50	0.028	5		mg/L	N/A	06/20/06	EPA 300.0
Sulfate	73	10	0.069	10		mg/L	N/A	06/20/06	EPA 300.0
Perchlorate (1)	0.71	2.0	0.43	1	J	ug/L	N/A	06/23/06	EPA 314.0
Sulfide, Total (1)	ND	0.050	0.042	1		mg/L	06/22/06	06/22/06	EPA 376.2
Dissolved Oxygen	7.82	0.01		1		mg/L	N/A	06/19/06	SM 4500-O G

Method Blank			N/A	Aqueous					

Comment(s): (1) Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Chromium, Hexavalent (1)	0.025	0.20	0.0050	1	J	ug/L	N/A	06/19/06	EPA 218.6
Chloride (1)	ND	1.0	0.055	1		mg/L	N/A	06/20/06	EPA 300.0
Nitrite (as N) (1)	ND	0.10	0.015	1		mg/L	N/A	06/20/06	EPA 300.0
Nitrate (as N) (1)	ND	0.10	0.028	1		mg/L	N/A	06/20/06	EPA 300.0
Sulfate (1)	ND	1.0	0.069	1		mg/L	N/A	06/20/06	EPA 300.0
Perchlorate (1)	ND	2.0	0.43	1		ug/L	N/A	06/23/06	EPA 314.0
Sulfide, Total (1)	ND	0.050	0.042	1		mg/L	06/22/06	06/22/06	EPA 376.2

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	06/19/06
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1183
Pasadena, CA 91107-6024		Preparation:	EPA 3005A Filt.
		Method:	EPA 6010B

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-4	Aqueous	ICP 3300	06/20/06	06/21/06	060620S03

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Antimony	105	108	72-132	3	0-10	
Arsenic	104	108	80-140	4	0-11	
Barium	103	105	87-123	1	0-6	
Beryllium	100	105	89-119	4	0-8	
Cadmium	102	104	82-124	2	0-7	
Chromium	103	105	86-122	2	0-8	
Cobalt	99	105	83-125	6	0-7	
Copper	70	72	78-126	3	0-7	3
Lead	100	103	84-120	3	0-7	
Molybdenum	103	106	78-126	3	0-7	
Nickel	96	102	84-120	6	0-7	
Selenium	104	106	79-127	2	0-9	
Silver	104	105	86-128	1	0-7	
Thallium	94	98	79-121	4	0-8	
Vanadium	103	105	88-118	2	0-7	
Zinc	98	105	89-131	6	0-8	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 06/19/06
Work Order No: 06-06-1183
Preparation: EPA 3005A Filt.
Method: EPA 6010B

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-4	Aqueous	ICP 3300	06/20/06	06/21/06	060620S03

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Calcium	4X	4X	77-113	4X	0-11	Q
Magnesium	4X	4X	56-140	4X	0-11	Q
Potassium	102	102	83-131	0	0-7	
Sodium	4X	4X	73-127	4X	0-9	Q

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	06/19/06
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1183
Pasadena, CA 91107-6024		Preparation:	EPA 3005A Filt.
		Method:	EPA 200.8

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-4	Aqueous	ICP/MS A	06/21/06	06/21/06	060621S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Iron	142	134	80-120	6	0-20	3
Manganese	100	100	80-120	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 06/19/06
Work Order No: 06-06-1183
Preparation: EPA 7470A Filt.
Method: EPA 7470A

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-4	Aqueous	Mercury	06/20/06	06/20/06	060620S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	83	83	71-134	0	0-14	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.	Date Received:	06/19/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-06-1183
Pasadena, CA 91107-6024	Preparation:	EPA 3520B
	Method:	EPA 8270C(M) Isotope Dilution

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-4	Aqueous	GC/MS J	06/22/06	06/28/06	060622S01D

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,4-Dioxane	83	85	50-130	3	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 06/19/06
Work Order No: 06-06-1183
Preparation: EPA 3520B
Method: EPA 1625CM

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-4	Aqueous	GC/MS H	06/23/06	06/26/06	060623S09A

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
N-Nitrosodimethylamine	118	99	50-130	17	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.	Date Received:	06/19/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-06-1183
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-4	Aqueous	GC/MS W	06/22/06	06/23/06	060622S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	98	97	88-118	1	0-7	
Carbon Tetrachloride	101	108	67-145	7	0-11	
Chlorobenzene	104	100	88-118	4	0-7	
1,2-Dichlorobenzene	103	101	86-116	2	0-8	
1,1-Dichloroethene	93	96	70-130	4	0-25	
Toluene	102	98	87-123	5	0-8	
Trichloroethene	86	86	79-127	0	0-10	
Vinyl Chloride	93	106	69-129	14	0-13	4
Methyl-t-Butyl Ether (MTBE)	88	101	71-131	14	0-13	4
Tert-Butyl Alcohol (TBA)	79	95	36-168	18	0-45	
Diisopropyl Ether (DIPE)	93	97	81-123	4	0-9	
Ethyl-t-Butyl Ether (ETBE)	86	94	72-126	8	0-12	
Tert-Amyl-Methyl Ether (TAME)	99	101	72-126	2	0-12	
Ethanol	115	87	53-149	28	0-31	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.	Date Received:	06/19/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-06-1183
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
06-06-1352-1	Aqueous	GC/MS W	06/23/06	06/24/06	060623S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	92	89	88-118	3	0-7	
Carbon Tetrachloride	93	94	67-145	1	0-11	
Chlorobenzene	98	97	88-118	1	0-7	
1,2-Dichlorobenzene	98	97	86-116	1	0-8	
1,1-Dichloroethene	83	82	70-130	1	0-25	
Toluene	92	89	87-123	3	0-8	
Trichloroethene	94	90	79-127	4	0-10	
Vinyl Chloride	88	87	69-129	1	0-13	
Methyl-t-Butyl Ether (MTBE)	0	0	71-131	8	0-13	3
Tert-Butyl Alcohol (TBA)	84	84	36-168	0	0-45	
Diisopropyl Ether (DIPE)	89	89	81-123	1	0-9	
Ethyl-t-Butyl Ether (ETBE)	76	77	72-126	1	0-12	
Tert-Amyl-Methyl Ether (TAME)	90	89	72-126	1	0-12	
Ethanol	137	134	53-149	2	0-31	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.	Date Received:	06/19/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-06-1183
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	SRL 524M-TCP

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-4	Aqueous	GC/MS M	06/21/06	06/22/06	060621S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,2,3-Trichloropropane	66	66	80-120	0	0-20	3
1,4-Dioxane	90	89	80-120	2	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	06/19/06
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1183
Pasadena, CA 91107-6024		Preparation:	EPA 5030B
		Method:	SRL 524M-TCP

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
06-06-1520-1	Aqueous	GC/MS M	06/26/06	06/26/06	060626S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,2,3-Trichloropropane	94	124	80-120	28	0-20	4,3
1,4-Dioxane	100	100	80-120	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: N/A
Work Order No: 06-06-1183

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Matrix: Aqueous

Parameter	Method	Quality Control Sample ID	Date Analyzed	Date Extracted	MS% REC	MSD % REC	%REC CL	RPD	RPD CL	Qualifiers
Chloride	EPA 300.0	MW-4	06/20/06	N/A	95	96	56-134	1	0-3	
Nitrite (as N)	EPA 300.0	MW-4	06/20/06	N/A	99	95	68-122	4	0-8	
Nitrate (as N)	EPA 300.0	MW-4	06/20/06	N/A	93	96	58-142	4	0-6	
Sulfate	EPA 300.0	MW-4	06/20/06	N/A	104	102	49-133	2	0-3	
Chromium, Hexavalent	EPA 218.6	MW-4	06/19/06	N/A	103	102	85-121	0	0-4	
Perchlorate	EPA 314.0	MW-4	06/23/06	N/A	97	97	80-120	0	0-15	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: N/A
Work Order No: 06-06-1183

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Matrix: Aqueous

Parameter	Method	QC Sample ID	Date Analyzed	Sample Conc.	DUP Conc	RPD	RPD CL	Qualifiers
Dissolved Oxygen	SM 4500-O G	MW-4	06/19/06	7.89	7.70	2	0-25	
Sulfide, Total	EPA 376.2	MW-4	06/22/06	ND	ND	NA	0-25	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1183
Pasadena, CA 91107-6024		Preparation:	EPA 3005A Filt.
		Method:	EPA 6010B

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-01-003-6,215	Aqueous	ICP 3300	06/21/06	060620-I-03	060620L03F

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Antimony	0.500	0.528	106	80-120	
Arsenic	0.500	0.522	104	80-120	
Barium	0.500	0.533	107	80-120	
Beryllium	0.500	0.512	102	80-120	
Cadmium	0.500	0.535	107	80-120	
Chromium	0.500	0.525	105	80-120	
Cobalt	0.500	0.544	109	80-120	
Copper	0.500	0.447	89	80-120	
Lead	0.500	0.532	106	80-120	
Molybdenum	0.500	0.530	106	80-120	
Nickel	0.500	0.543	109	80-120	
Selenium	0.500	0.493	99	80-120	
Silver	0.250	0.263	105	80-120	
Thallium	0.500	0.489	98	80-120	
Vanadium	0.500	0.512	102	80-120	
Zinc	0.500	0.529	106	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1183
Pasadena, CA 91107-6024		Preparation:	EPA 3005A Filt.
		Method:	EPA 6010B

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-01-003-6,215	Aqueous	ICP 3300	06/21/06	060620-L-03	060620L03F

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Calcium	0.500	0.516	103	80-120	
Magnesium	0.500	0.511	102	80-120	
Potassium	5.00	5.12	102	80-120	
Sodium	5.00	5.20	104	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1183
Pasadena, CA 91107-6024		Preparation:	EPA 3005A Filt.
		Method:	EPA 200.8

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-10-008-736	Aqueous	ICP/MS A	06/21/06	06/21/06	060621L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Iron	102	102	85-115	0	0-20	
Manganese	98	98	85-115	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc. **Quality Control - Laboratory Control Sample**

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: N/A
Work Order No: 06-06-1183
Preparation: EPA 7470A Filt.
Method: EPA 7470A

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
099-04-008-2,541	Aqueous	Mercury	06/21/06	060620-I-02-1.icp	060620L02F

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Mercury	0.0100	0.00970	97	90-122	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1183
Pasadena, CA 91107-6024		Preparation:	EPA 3520B
		Method:	EPA 8270C(M) Isotope Dilution

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-09-004-597	Aqueous	GC/MS J	06/22/06	06/27/06	060622L01D

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,4-Dioxane	83	88	50-130	5	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1183
Pasadena, CA 91107-6024		Preparation:	EPA 3520B
		Method:	EPA 1625CM

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-07-027-251	Aqueous	GC/MS H	06/23/06	06/27/06	060623L09

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
N-Nitrosodimethylamine	78	80	50-130	4	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1183
Pasadena, CA 91107-6024		Preparation:	EPA 5030B
		Method:	EPA 8260B

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-10-006-18,334	Aqueous	GC/MS W	06/22/06	06/22/06	060622L02

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	97	97	84-120	0	0-8	
Carbon Tetrachloride	104	110	63-147	6	0-10	
Chlorobenzene	100	103	89-119	3	0-7	
1,2-Dichlorobenzene	102	103	89-119	1	0-9	
1,1-Dichloroethene	91	96	77-125	6	0-16	
Toluene	99	98	83-125	0	0-9	
Trichloroethene	100	101	89-119	1	0-8	
Vinyl Chloride	104	107	63-135	3	0-13	
Methyl-t-Butyl Ether (MTBE)	93	102	82-118	9	0-13	
Tert-Butyl Alcohol (TBA)	90	97	46-154	7	0-32	
Diisopropyl Ether (DIPE)	92	99	81-123	7	0-11	
Ethyl-t-Butyl Ether (ETBE)	89	98	74-122	10	0-12	
Tert-Amyl-Methyl Ether (TAME)	99	104	76-124	6	0-10	
Ethanol	95	96	60-138	2	0-32	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1183
Pasadena, CA 91107-6024		Preparation:	EPA 5030B
		Method:	EPA 8260B

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-10-006-18,349	Aqueous	GC/MS W	06/23/06	06/23/06	060623L02

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	96	94	84-120	3	0-8	
Carbon Tetrachloride	106	103	63-147	3	0-10	
Chlorobenzene	101	99	89-119	1	0-7	
1,2-Dichlorobenzene	100	99	89-119	1	0-9	
1,1-Dichloroethene	94	92	77-125	3	0-16	
Toluene	98	97	83-125	0	0-9	
Trichloroethene	99	96	89-119	3	0-8	
Vinyl Chloride	105	92	63-135	13	0-13	
Methyl-t-Butyl Ether (MTBE)	92	82	82-118	11	0-13	
Tert-Butyl Alcohol (TBA)	82	78	46-154	5	0-32	
Diisopropyl Ether (DIPE)	94	91	81-123	3	0-11	
Ethyl-t-Butyl Ether (ETBE)	89	85	74-122	4	0-12	
Tert-Amyl-Methyl Ether (TAME)	97	96	76-124	2	0-10	
Ethanol	81	112	60-138	32	0-32	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1183
Pasadena, CA 91107-6024		Preparation:	EPA 5030B
		Method:	SRL 524M-TCP

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-10-022-240	Aqueous	GC/MS M	06/21/06	06/21/06	060621L02

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,2,3-Trichloropropane	86	91	80-120	6	0-20	
1,4-Dioxane	83	87	80-120	4	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1183
Pasadena, CA 91107-6024		Preparation:	EPA 5030B
		Method:	SRL 524M-TCP

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-10-022-242	Aqueous	GC/MS M	06/26/06	06/26/06	060626L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,2,3-Trichloropropane	107	115	80-120	7	0-20	
1,4-Dioxane	94	94	80-120	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: N/A
Work Order No: 06-06-1183

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Matrix: Aqueous

Parameter	Method	Quality Control Sample ID	Date Extracted	Date Analyzed	LCS % REC	LCSD % REC	%REC CL	RPD	RPD CL	Qual
Chloride	EPA 300.0	099-05-118-3,422	N/A	06/20/06	94	95	81-111	1	0-5	
Nitrite (as N)	EPA 300.0	099-05-118-3,422	N/A	06/20/06	92	94	73-115	1	0-26	
Nitrate (as N)	EPA 300.0	099-05-118-3,422	N/A	06/20/06	97	97	87-111	0	0-12	
Sulfate	EPA 300.0	099-05-118-3,422	N/A	06/20/06	99	97	89-107	2	0-13	
Chromium, Hexavalent	EPA 218.6	099-05-124-485	N/A	06/19/06	99	99	95-107	0	0-20	
Perchlorate	EPA 314.0	099-05-203-423	N/A	06/23/06	107	104	85-115	3	0-15	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 06-06-1183

Qualifier	Definition
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike or Matrix Spike Duplicate compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

(1183)

TETRA TECH, INC.
3475 E. FOOTHILL BLVD.
PASADENA, CALIFORNIA 91107
TELEPHONE (626) 351-4664
FAX (626)351-5291

SHIPPED TO: CALSCIENCE
7440 Lincoln Way
G.G., CA 92841

CHAIN OF CUSTODY RECORD

DATE 6/19/06 PAGE 1 OF 1

CLIENT: LOCKHEED MARTIN CORP
PROJECT NAME: 2006 BOU
Groundwater Monitoring (PACWELLS)
TASK MANAGER: Neil Shukla
TC #: 17597-3.1A or 17653-0602
SAMPLERS (SIGNATURES): Norman Ng

EXTRACTION/ANALYTICAL METHODS

SAMPLE NO.	DATE	TIME	VOCs EPA 8260B w/ Freon, MTBE - TICs	1,2,3-TCP EPA 504.1 (524.2/LLE-GCMS + PTGMS	Title 22 Metals EPA 6010B/7000 (FILTERED)	Hexavalent Chromium EPA 218.6	1,4-Dioxane EPA 8270C-SIM	NDMA EPA 1625C	Perchlorate EPA 314.0	Dissolved Fe + Mn, Total Coliform EPA 200.8 (FILTERED)	CATIONS/ANIONS EPA 6010B/300.0	Dissolved Oxygen SM4500/EPA 360.1	Sulfide EPA 376.2	Nitrate/Nitrite EPA 300.0				MATRIX TYPE	PRESERVATIVE	CONTAINER TYPE	NUMBER OF CONTAINERS		TURN-AROUND TIME: STANDARD; OBSERVATIONS /COMMENTS
			X	X	X	X	X	X	X	X	X	X	X	X									
LTB061906	6/19/06	0805	X															W	Yes	G	2		
MW-6		0945	X	X	X	X	X	X	X	X	X	X	X	X				W	Yes	G/P	13		
MW-5		1205	X	X	X	X	X	X	X	X	X	X	X	X				W	Yes	G/P	13		
MW-4		1329	X	X	X	X	X	X	X	X	X	X	X	X				W	Yes	G/P	13		
MW-4 D		1339	X	X	X	X	X	X	X	X	X	X	X	X				W	Yes	G/P	39		MS/MSD
LFB061906		1405	X															W	Yes	G	2		

MATRIX TYPE: S - SOIL, W - WATER, SL - SLUDGE
CONTAINER TYPE: G - GLASS BOTTLE/VOA, SS - STAINLESS STEEL SLEEVE, P - PLASTIC
PRESERVATIVES: HCL, NR (NONE REQUIRED)
TEMPERATURE BLANK EACH COOLER: YES / NO

RELINQUISHED BY: Norman Ng	SIGNATURE: Norman Ng	TETRA TECH, INC.	DATE: 6/19/06	TIME: 1579	TOTAL NUMBER OF CONTAINERS: 82
RECEIVED BY: Leovigildo Macias	SIGNATURE:	COMPANY: CEL	DATE: 6/19/06	TIME: 1579	METHOD OF SHIPMENT: Lab Pick up
RELINQUISHED BY: Leovigildo Macias	SIGNATURE:	COMPANY: CEL	DATE: 6/19/06	TIME: 1728	SPECIAL SHIPMENT/HANDLING OR STORAGE REQUIREMENTS
RECEIVED BY:	SIGNATURE:	COMPANY:	DATE: 6.19.06	TIME: 1728	AIRBILL NO:

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 06 - 06 - 1183

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: TETRA TECH **DATE:** 6-19-06

TEMPERATURE – SAMPLES RECEIVED BY:

CALSCIENCE COURIER:

- _____ Chilled, cooler with temperature blank provided.
- _____ Chilled, cooler without temperature blank.
- ✓ Chilled and placed in cooler with wet ice.
- _____ Ambient and placed in cooler with wet ice.
- _____ Ambient temperature.

3.6 °C Temperature blank.

LABORATORY (Other than Calscience Courier):

- _____ °C Temperature blank.
- _____ °C IR thermometer.
- _____ Ambient temperature.

Initial: LM

CUSTODY SEAL INTACT:

Sample(s): _____ Cooler: _____ No (Not Intact) : _____ Not Applicable (N/A): ✓

Initial: LM

SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody document(s) received with samples	✓		
Sampler's name indicated on COC	✓		
Sample container label(s) consistent with custody papers	✓		
Sample container(s) intact and good condition	✓		
Correct containers and volume for analyses requested	✓		
Proper preservation noted on sample label(s)	✓		
VOA vial(s) free of headspace.	✓		
Tedlar bag(s) free of condensation			✓

Initial: LM

COMMENTS:

Calscience
Environmental
Laboratories, Inc.

July 05, 2006

Neil Shukla
Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Subject: **Calscience Work Order No.:** **06-06-1241**
Client Reference: **BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 6/20/2006 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Calscience Environmental
Laboratories, Inc.
Jason Torres
Project Manager

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 06/20/06
Work Order No: 06-06-1241
Preparation: EPA 3005A Filt. / EPA 7470A Filt.
Method: EPA 6010B / EPA 7470A
Units: mg/L

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-8	06-06-1241-2	06/20/06	Aqueous	06/21/06	06/22/06	060621L06F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.
-Mercury was analyzed on 6/22/2006 1:33:43 PM with batch 060621L04F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Antimony	ND	0.0150	0.00209	1		Mercury	ND	0.000500	0.0000672	1	
Arsenic	ND	0.0100	0.00308	1		Molybdenum	ND	0.00500	0.000800	1	
Barium	0.145	0.010	0.000719	1		Nickel	0.00239	0.00500	0.00137	1	J,B
Beryllium	ND	0.00100	0.000176	1		Selenium	ND	0.0150	0.00295	1	
Cadmium	ND	0.00500	0.000350	1		Silver	ND	0.00500	0.000400	1	
Chromium	0.00650	0.00500	0.000350	1	B	Thallium	ND	0.0150	0.00233	1	
Cobalt	0.00194	0.00500	0.000696	1	J,B	Vanadium	0.00350	0.00500	0.000314	1	J
Copper	ND	0.00500	0.00134	1		Zinc	0.0937	0.0100	0.000848	1	
Lead	ND	0.0100	0.00236	1							

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-7	06-06-1241-3	06/20/06	Aqueous	06/21/06	06/22/06	060621L06F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.
-Mercury was analyzed on 6/22/2006 1:35:54 PM with batch 060621L04F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Antimony	ND	0.0150	0.00209	1		Mercury	ND	0.000500	0.0000672	1	
Arsenic	ND	0.0100	0.00308	1		Molybdenum	ND	0.00500	0.000800	1	
Barium	0.146	0.010	0.000719	1		Nickel	0.00338	0.00500	0.00137	1	J,B
Beryllium	ND	0.00100	0.000176	1		Selenium	ND	0.0150	0.00295	1	
Cadmium	ND	0.00500	0.000350	1		Silver	ND	0.00500	0.000400	1	
Chromium	0.00641	0.00500	0.000350	1	B	Thallium	ND	0.0150	0.00233	1	
Cobalt	0.00171	0.00500	0.000696	1	J,B	Vanadium	0.00393	0.00500	0.000314	1	J
Copper	ND	0.00500	0.00134	1		Zinc	0.110	0.010	0.000848	1	
Lead	ND	0.0100	0.00236	1							

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-3	06-06-1241-4	06/20/06	Aqueous	06/21/06	06/22/06	060621L06F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.
-Mercury was analyzed on 6/22/2006 1:38:05 PM with batch 060621L04F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Antimony	ND	0.0150	0.00209	1		Mercury	ND	0.000500	0.0000672	1	
Arsenic	ND	0.0100	0.00308	1		Molybdenum	ND	0.00500	0.000800	1	
Barium	0.141	0.010	0.000719	1		Nickel	0.00365	0.00500	0.00137	1	J,B
Beryllium	ND	0.00100	0.000176	1		Selenium	ND	0.0150	0.00295	1	
Cadmium	ND	0.00500	0.000350	1		Silver	ND	0.00500	0.000400	1	
Chromium	0.00741	0.00500	0.000350	1	B	Thallium	0.00321	0.0150	0.00233	1	J
Cobalt	0.00197	0.00500	0.000696	1	J,B	Vanadium	0.00326	0.00500	0.000314	1	J
Copper	ND	0.00500	0.00134	1		Zinc	0.110	0.010	0.000848	1	
Lead	ND	0.0100	0.00236	1							

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.	Date Received:	06/20/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-06-1241
Pasadena, CA 91107-6024	Preparation:	EPA 3005A Filt. / EPA 7470A Filt.
	Method:	EPA 6010B / EPA 7470A
	Units:	mg/L
Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602		Page 2 of 2

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	**099-04-008-2,530**	**N/A**	**Aqueous**	**06/21/06**	**06/21/06**	**060621L04F**

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual
Mercury	ND	0.000500		1	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	**097-01-003-6,222**	**N/A**	**Aqueous**	**06/21/06**	**06/22/06**	**060621L06F**

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Antimony	ND	0.0150	0.00209	1		Lead	ND	0.0100	0.00236	1	
Arsenic	ND	0.0100	0.00308	1		Molybdenum	ND	0.00500	0.000800	1	
Barium	ND	0.0100	0.000719	1		Nickel	0.00274	0.00500	0.00137	1	J
Beryllium	ND	0.00100	0.000176	1		Selenium	ND	0.0150	0.00295	1	
Cadmium	ND	0.00500	0.000350	1		Silver	0.000815	0.00500	0.000400	1	J
Chromium	0.00233	0.00500	0.000350	1	J	Thallium	ND	0.0150	0.00233	1	
Cobalt	0.00123	0.00500	0.000696	1	J	Vanadium	ND	0.00500	0.000314	1	
Copper	ND	0.00500	0.00134	1		Zinc	ND	0.0100	0.000848	1	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received:	06/20/06
Work Order No:	06-06-1241
Preparation:	EPA 3005A Filt.
Method:	EPA 6010B
Units:	mg/L
	Page 1 of 1

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-8	06-06-1241-2	06/20/06	Aqueous	06/21/06	06/22/06	060621L06F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Calcium	104	0.100	0.00932	1		Potassium	5.74	0.50	0.0561	1	B
Magnesium	33.3	0.1	0.00328	1		Sodium	37.7	0.5	0.0192	1	B

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-7	06-06-1241-3	06/20/06	Aqueous	06/21/06	06/22/06	060621L06F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Calcium	98.3	0.1	0.00932	1		Potassium	5.45	0.50	0.0561	1	B
Magnesium	34.4	0.1	0.00328	1		Sodium	37.9	0.5	0.0192	1	B

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-3	06-06-1241-4	06/20/06	Aqueous	06/21/06	06/22/06	060621L06F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Calcium	107	0.100	0.00932	1		Potassium	5.87	0.50	0.0561	1	B
Magnesium	32.7	0.1	0.00328	1		Sodium	38.8	0.5	0.0192	1	B

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	097-01-003-6,222	N/A	Aqueous	06/21/06	06/22/06	060621L06F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Calcium	ND	0.100	0.00932	1		Potassium	0.0910	0.500	0.0561	1	J
Magnesium	ND	0.100	0.00328	1		Sodium	0.172	0.500	0.0192	1	J

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.	Date Received:	06/20/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-06-1241
Pasadena, CA 91107-6024	Preparation:	EPA 3005A Filt.
	Method:	EPA 200.8
	Units:	mg/L
Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602		Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-8	06-06-1241-2	06/20/06	Aqueous	06/21/06	06/23/06	060621L01F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Iron	0.0196	0.100	0.00214	1	J	Manganese	0.00235	0.00100	0.0000189	1	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-7	06-06-1241-3	06/20/06	Aqueous	06/21/06	06/23/06	060621L01F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Iron	0.0210	0.100	0.00214	1	J	Manganese	0.00184	0.00100	0.0000189	1	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-3	06-06-1241-4	06/20/06	Aqueous	06/21/06	06/23/06	060621L01F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Iron	0.0172	0.100	0.00214	1	J	Manganese	0.00432	0.00100	0.0000189	1	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-10-008-738	N/A	Aqueous	06/21/06	06/21/06	060621L01F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Iron	ND	0.100	0.00214	1		Manganese	ND	0.00100	0.0000189	1	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 06/20/06
Work Order No: 06-06-1241
Preparation: EPA 3520B
Method: EPA 8270C(M) Isotope Dilution

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-8	06-06-1241-2	06/20/06	Aqueous	06/22/06	06/28/06	060622L01D

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
1,4-Dioxane	ND	2.0	0.40	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Nitrobenzene-d5	77	56-123				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-7	06-06-1241-3	06/20/06	Aqueous	06/22/06	06/28/06	060622L01D

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
1,4-Dioxane	ND	2.0	0.40	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Nitrobenzene-d5	85	56-123				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-3	06-06-1241-4	06/20/06	Aqueous	06/22/06	06/28/06	060622L01D

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
1,4-Dioxane	ND	2.0	0.40	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Nitrobenzene-d5	81	56-123				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-09-004-597	N/A	Aqueous	06/22/06	06/27/06	060622L01D

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
1,4-Dioxane	ND	2.0	0.40	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Nitrobenzene-d5	76	56-123				

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.		Date Received:	06/20/06
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1241
Pasadena, CA 91107-6024		Preparation:	EPA 3520B
		Method:	EPA 1625CM

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-9	06-06-1241-2	06/20/06	Aqueous	06/23/06	06/27/06	060623L09

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
N-Nitrosodimethylamine	ND	2.0	0.48	1		ng/L
Surrogates:	REC (%)	Control Limits			Qual	
1,4-Dichlorobenzene-d4	53	50-130				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-7	06-06-1241-3	06/20/06	Aqueous	06/23/06	06/27/06	060623L09

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
N-Nitrosodimethylamine	ND	2.0	0.48	1		ng/L
Surrogates:	REC (%)	Control Limits			Qual	
1,4-Dichlorobenzene-d4	52	50-130				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-3	06-06-1241-4	06/20/06	Aqueous	06/23/06	06/27/06	060623L09

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
N-Nitrosodimethylamine	ND	2.0	0.48	1		ng/L
Surrogates:	REC (%)	Control Limits			Qual	
1,4-Dichlorobenzene-d4	50	50-130				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-07-027-251	N/A	Aqueous	06/23/06	06/27/06	060623L09

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
N-Nitrosodimethylamine	ND	2.0	0.48	1		ng/L
Surrogates:	REC (%)	Control Limits			Qual	
1,4-Dichlorobenzene-d4	54	50-130				

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.	Date Received:	06/20/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-06-1241
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	ug/L
Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602		Page 1 of 6

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
LTB062006	06-06-1241-1	06/20/06	Aqueous	07/03/06	07/03/06	060703L01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	9.4	10.0	6.1	1	J,B	1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	ND	1.0	0.27	1		t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	3.4	10.0	2.6	1	J,B
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	ND	0.50	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	ND	1.0	0.22	1		1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	ND	1.0	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	0.41	1.0	0.35	1	J
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	0.54	1	
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	ND	1.0	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	ND	0.50	0.22	1		Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	ND	1.0	0.31	1		Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	108	74-140		1,2-Dichloroethane-d4	101	74-146	
Toluene-d8	97	88-112		1,4-Bromofluorobenzene	89	74-110	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.	Date Received:	06/20/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-06-1241
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	ug/L
Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602		Page 2 of 6

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-8	06-06-1241-2	06/20/06	Aqueous	07/03/06	07/03/06	060703L01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	10	10	6.1	1	B	1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	ND	1.0	0.27	1		t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	4.2	10.0	2.6	1	J,B
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	0.79	0.50	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	1.1	1.0	0.22	1		1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	160	1	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	ND	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	2.2	10.0	0.54	1	J
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	58	1	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	1.6	0.5	0.22	1		Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	0.97	1.0	0.31	1	J	Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.	Date Received:	06/20/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-06-1241
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	ug/L
Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602		Page 3 of 6

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-7	06-06-1241-3	06/20/06	Aqueous	07/03/06	07/03/06	060703L01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	9.8	10.0	6.1	1	J,B	1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	ND	1.0	0.27	1		t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	3.6	10.0	2.6	1	J,B
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	ND	0.50	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	0.71	1.0	0.22	1	J	1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	50	1	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	ND	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	0.54	1	
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	17	1	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	ND	0.50	0.22	1		Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	0.41	1.0	0.31	1	J	Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	109	74-140		1,2-Dichloroethane-d4	102	74-146	
Toluene-d8	97	88-112		1,4-Bromofluorobenzene	87	74-110	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.	Date Received:	06/20/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-06-1241
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	ug/L
Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602		Page 4 of 6

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-3	06-06-1241-4	06/20/06	Aqueous	07/03/06	07/03/06	060703L01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	9.7	10.0	6.1	1	J,B	1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	ND	1.0	0.27	1		t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	3.6	10.0	2.6	1	J,B
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	1.1	0.5	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	1.4	1.0	0.22	1		1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	36	1	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	ND	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	1.9	10.0	0.54	1	J
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	12	1	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	0.46	0.50	0.22	1	J	Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	2.6	1.0	0.31	1		Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	110	74-140		1,2-Dichloroethane-d4	103	74-146	
Toluene-d8	98	88-112		1,4-Bromofluorobenzene	86	74-110	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.	Date Received:	06/20/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-06-1241
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	ug/L
Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602		Page 5 of 6

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
LFB-062006	06-06-1241-5	06/20/06	Aqueous	07/03/06	07/03/06	060703L01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	9.9	10.0	6.1	1	J,B	1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	ND	1.0	0.27	1		t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	5.5	10.0	2.6	1	J,B
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	ND	0.50	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	ND	1.0	0.22	1		1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	ND	1.0	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	ND	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	0.54	1	
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	ND	1.0	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	ND	0.50	0.22	1		Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	ND	1.0	0.31	1		Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Dibromofluoromethane	110	74-140				1,2-Dichloroethane-d4	106	74-146			
Toluene-d8	99	88-112				1,4-Bromofluorobenzene	88	74-110			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.	Date Received:	06/20/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-06-1241
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	ug/L
Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602		Page 6 of 6

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-10-006-18,441	N/A	Aqueous	07/03/06	07/03/06	060703L01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	12	10	6.1	1		1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	ND	1.0	0.27	1		t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	3.2	10.0	2.6	1	J
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	ND	0.50	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	ND	1.0	0.22	1		1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	ND	1.0	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	ND	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	0.54	1	
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	ND	1.0	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	ND	0.50	0.22	1		Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	ND	1.0	0.31	1		Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Dibromofluoromethane	105	74-140				1,2-Dichloroethane-d4	98	74-146			
Toluene-d8	97	88-112				1,4-Bromofluorobenzene	89	74-110			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

EPA 8260B Tentatively Identified Compound List

Work Order	CEL Sample	Client ID	Q	Compound	CAS NUMBER	RT	On Column Conc. ug/L	Estimated Conc. ug/L
06-06-1241				No TICs found for all samples				

Q Qualifier
RT Retention Time

7440 Lincoln Way, Garden Grove, CA 92841-1432 • TEL: (714) 895-5494 • FAX: (714) 894-7501

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 06/20/06
Work Order No: 06-06-1241
Preparation: EPA 5030B
Method: SRL 524M-TCP

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602 Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-8	06-06-1241-2	06/20/06	Aqueous	06/21/06	06/22/06	060621L02

Parameter	Result	RL	MDL	DF	Qual	Units
1,2,3-Trichloropropane	0.068	0.005	0.0017	1		ug/L

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-7	06-06-1241-3	06/20/06	Aqueous	06/21/06	06/22/06	060621L02

Parameter	Result	RL	MDL	DF	Qual	Units
1,2,3-Trichloropropane	0.016	0.005	0.0017	1		ug/L

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-3	06-06-1241-4	06/20/06	Aqueous	06/21/06	06/22/06	060621L02

Parameter	Result	RL	MDL	DF	Qual	Units
1,2,3-Trichloropropane	0.044	0.005	0.0017	1		ug/L

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-10-022-240	N/A	Aqueous	06/21/06	06/22/06	060621L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
1,2,3-Trichloropropane	ND	0.0050	0.0017	1		ug/L

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH ISO/IEC 17025

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 06/20/06
Work Order No: 06-06-1241

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Client Sample Number	Lab Sample Number	Date Collected	Matrix
MW-8	06-06-1241-2	06/20/06	Aqueous

Comment(s): (1) Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Chromium, Hexavalent	1.5	0.2	0.0050	1	B	ug/L	N/A	06/20/06	EPA 218.6
Chloride	40	10	0.055	10		mg/L	N/A	06/21/06	EPA 300.0
Nitrite (as N) (1)	ND	0.10	0.015	1		mg/L	N/A	06/21/06	EPA 300.0
Nitrate (as N)	12	1	0.028	10		mg/L	N/A	06/21/06	EPA 300.0
Sulfate	73	10	0.069	10		mg/L	N/A	06/21/06	EPA 300.0
Perchlorate (1)	0.76	2.0	0.43	1	J	ug/L	N/A	06/23/06	EPA 314.0
Sulfide, Total (1)	ND	0.050	0.042	1		mg/L	06/26/06	06/26/06	EPA 376.2
Dissolved Oxygen	7.54	0.01	0.0100	1		mg/L	N/A	06/20/06	SM 4500-O G

MW-7	06-06-1241-3	06/20/06	Aqueous

Comment(s): (1) Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Chromium, Hexavalent	1.4	0.2	0.0050	1	B	ug/L	N/A	06/20/06	EPA 218.6
Chloride	38	10	0.055	10		mg/L	N/A	06/21/06	EPA 300.0
Nitrite (as N) (1)	ND	0.10	0.015	1		mg/L	N/A	06/21/06	EPA 300.0
Nitrate (as N)	10	1	0.028	10		mg/L	N/A	06/21/06	EPA 300.0
Sulfate	67	10	0.069	10		mg/L	N/A	06/21/06	EPA 300.0
Perchlorate (1)	0.59	2.0	0.43	1	J	ug/L	N/A	06/23/06	EPA 314.0
Sulfide, Total (1)	ND	0.050	0.042	1		mg/L	06/26/06	06/26/06	EPA 376.2
Dissolved Oxygen	7.71	0.01	0.0100	1		mg/L	N/A	06/20/06	SM 4500-O G

MW-3	06-06-1241-4	06/20/06	Aqueous

Comment(s): (1) Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Chromium, Hexavalent	1.6	0.2	0.0050	1	B	ug/L	N/A	06/20/06	EPA 218.6
Chloride	41	10	0.055	10		mg/L	N/A	06/21/06	EPA 300.0
Nitrite (as N) (1)	ND	0.10	0.015	1		mg/L	N/A	06/21/06	EPA 300.0
Nitrate (as N)	13	1	0.028	10		mg/L	N/A	06/21/06	EPA 300.0
Sulfate	71	10	0.069	10		mg/L	N/A	06/21/06	EPA 300.0
Perchlorate (1)	0.75	2.0	0.43	1	J	ug/L	N/A	06/23/06	EPA 314.0
Sulfide, Total (1)	ND	0.050	0.042	1		mg/L	06/26/06	06/26/06	EPA 376.2
Dissolved Oxygen	7.41	0.01	0.0100	1		mg/L	N/A	06/20/06	SM 4500-O G

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.	Date Received:	06/20/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-06-1241
Pasadena, CA 91107-6024		

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Client Sample Number	Lab Sample Number	Date Collected	Matrix
Method Blank		**N/A**	**Aqueous**

Comment(s): (1) Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Chromium, Hexavalent (1)	0.026	0.20	0.0050	1	J	ug/L	N/A	06/20/06	EPA 218.6
Chloride (1)	ND	1.0	0.055	1		mg/L	N/A	06/20/06	EPA 300.0
Nitrite (as N) (1)	ND	0.10	0.015	1		mg/L	N/A	06/20/06	EPA 300.0
Nitrate (as N) (1)	ND	0.10	0.028	1		mg/L	N/A	06/20/06	EPA 300.0
Sulfate (1)	ND	1.0	0.069	1		mg/L	N/A	06/20/06	EPA 300.0
Perchlorate (1)	ND	2.0	0.43	1		ug/L	N/A	06/23/06	EPA 314.0
Sulfide, Total (1)	ND	0.050	0.042	1		mg/L	06/26/06	06/26/06	EPA 376.2

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received:	06/20/06
Work Order No:	06-06-1241
Preparation:	EPA 3005A Filt.
Method:	EPA 6010B

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-8	Aqueous	ICP 3300	06/21/06	06/22/06	060621S06

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Antimony	106	108	72-132	2	0-10	
Arsenic	106	108	80-140	2	0-11	
Barium	104	105	87-123	1	0-6	
Beryllium	103	105	89-119	2	0-8	
Cadmium	102	105	82-124	2	0-7	
Chromium	103	105	86-122	2	0-8	
Cobalt	104	106	83-125	2	0-7	
Copper	80	82	78-126	3	0-7	
Lead	101	103	84-120	2	0-7	
Molybdenum	103	105	78-126	2	0-7	
Nickel	100	102	84-120	2	0-7	
Selenium	104	107	79-127	2	0-9	
Silver	104	106	86-128	2	0-7	
Thallium	89	91	79-121	3	0-8	
Vanadium	104	105	88-118	2	0-7	
Zinc	96	98	89-131	2	0-8	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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Tetra Tech, Inc.		Date Received:	06/20/06
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1241
Pasadena, CA 91107-6024		Preparation:	EPA 3005A Filt.
		Method:	EPA 6010B

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-8	Aqueous	ICP 3300	06/21/06	06/22/06	060621S06

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Calcium	4X	4X	77-113	4X	0-11	Q
Magnesium	4X	4X	56-140	4X	0-11	Q
Potassium	105	101	83-131	2	0-7	
Sodium	4X	4X	73-127	4X	0-9	Q

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Tetra Tech, Inc.		Date Received:	06/20/06
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1241
Pasadena, CA 91107-6024		Preparation:	EPA 3005A Filt.
		Method:	EPA 200.8

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
06-06-1183-4	Aqueous	ICP/MS A	06/21/06	06/21/06	060621S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Iron	142	134	80-120	6	0-20	3
Manganese	100	100	80-120	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Tetra Tech, Inc.		Date Received:	06/20/06
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1241
Pasadena, CA 91107-6024		Preparation:	EPA 7470A Total
		Method:	EPA 7470A

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
06-06-1258-1	Aqueous	Mercury	06/21/06	06/22/06	060621S04

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	108	112	71-134	3	0-14	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Tetra Tech, Inc.		Date Received:	06/20/06
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1241
Pasadena, CA 91107-6024		Preparation:	EPA 3520B
		Method:	EPA 8270C(M) Isotope Dilution

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
06-06-1183-4	Aqueous	GC/MS J	06/22/06	06/28/06	060622S01D

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,4-Dioxane	83	85	50-130	3	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Tetra Tech, Inc.		Date Received:	06/20/06
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1241
Pasadena, CA 91107-6024		Preparation:	EPA 5030B
		Method:	EPA 8260B

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
06-07-0054-4	Aqueous	GC/MS Z	07/03/06	07/03/06	060703S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	96	96	88-118	0	0-7	
Carbon Tetrachloride	113	115	67-145	2	0-11	
Chlorobenzene	98	97	88-118	1	0-7	
1,2-Dichlorobenzene	97	96	86-116	1	0-8	
1,1-Dichloroethene	90	93	70-130	4	0-25	
Toluene	98	98	87-123	0	0-8	
Trichloroethene	95	96	79-127	1	0-10	
Vinyl Chloride	83	85	69-129	2	0-13	
Methyl-t-Butyl Ether (MTBE)	91	94	71-131	2	0-13	
Tert-Butyl Alcohol (TBA)	77	81	36-168	6	0-45	
Diisopropyl Ether (DIPE)	101	104	81-123	3	0-9	
Ethyl-t-Butyl Ether (ETBE)	89	92	72-126	3	0-12	
Tert-Amyl-Methyl Ether (TAME)	98	101	72-126	3	0-12	
Ethanol	69	70	53-149	2	0-31	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Tetra Tech, Inc.		Date Received:	06/20/06
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1241
Pasadena, CA 91107-6024		Preparation:	EPA 5030B
		Method:	SRL 524M-TCP

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
06-06-1183-4	Aqueous	GC/MS M	06/21/06	06/22/06	060621S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,2,3-Trichloropropane	66	66	80-120	0	0-20	3
1,4-Dioxane	90	89	80-120	2	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: N/A
Work Order No: 06-06-1241

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Matrix: Aqueous

Parameter	Method	Quality Control Sample ID	Date Analyzed	Date Extracted	MS% REC	MSD % REC	%REC CL	RPD	RPD CL	Qualifiers
Chloride	EPA 300.0	06-06-1183-4	06/20/06	N/A	95	96	56-134	1	0-3	
Nitrite (as N)	EPA 300.0	06-06-1183-4	06/20/06	N/A	99	95	68-122	4	0-8	
Nitrate (as N)	EPA 300.0	06-06-1183-4	06/20/06	N/A	93	96	58-142	4	0-6	
Sulfate	EPA 300.0	06-06-1183-4	06/20/06	N/A	104	102	49-133	2	0-3	
Chromium, Hexavalent	EPA 218.6	06-06-1227-1	06/20/06	N/A	101	103	85-121	1	0-4	
Perchlorate	EPA 314.0	06-06-1183-4	06/23/06	N/A	97	97	80-120	0	0-15	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Duplicate

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: N/A
Work Order No: 06-06-1241

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Matrix: Aqueous

Parameter	Method	QC Sample ID	Date Analyzed	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
Dissolved Oxygen	SM 4500-O G	MW-3	06/20/06	7.41	7.47	1	0-25	
Sulfide, Total	EPA 376.2	06-06-1258-3	06/26/06	ND	ND	NA	0-25	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1241
Pasadena, CA 91107-6024		Preparation:	EPA 3005A Filt.
		Method:	EPA 6010B

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-01-003-6,222	Aqueous	ICP 3300	06/22/06	060621-I-06	060621L06F

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Antimony	0.500	0.490	98	80-120	
Arsenic	0.500	0.488	98	80-120	
Barium	0.500	0.507	101	80-120	
Beryllium	0.500	0.487	97	80-120	
Cadmium	0.500	0.514	103	80-120	
Chromium	0.500	0.506	101	80-120	
Cobalt	0.500	0.525	105	80-120	
Copper	0.500	0.459	92	80-120	
Lead	0.500	0.506	101	80-120	
Molybdenum	0.500	0.493	99	80-120	
Nickel	0.500	0.523	105	80-120	
Selenium	0.500	0.463	93	80-120	
Silver	0.250	0.242	97	80-120	
Thallium	0.500	0.457	91	80-120	
Vanadium	0.500	0.492	98	80-120	
Zinc	0.500	0.533	107	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1241
Pasadena, CA 91107-6024		Preparation:	EPA 3005A Filt.
		Method:	EPA 6010B

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-01-003-6,222	Aqueous	ICP 3300	06/22/06	060621-I-06	060621L06F

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Calcium	0.500	0.507	101	80-120	
Magnesium	0.500	0.488	98	80-120	
Potassium	5.00	5.06	101	80-120	
Sodium	5.00	5.17	103	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1241
Pasadena, CA 91107-6024		Preparation:	EPA 3005A Filt.
		Method:	EPA 200.8

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-10-008-738	Aqueous	ICP/MS A	06/21/06	06/21/06	060621L01F

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Iron	102	102	85-115	0	0-20	
Manganese	98	98	85-115	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1241
Pasadena, CA 91107-6024		Preparation:	EPA 7470A Filt.
		Method:	EPA 7470A

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-04-008-2,530	Aqueous	Mercury	06/21/06	06/21/06	060621L04F

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	97	97	90-122	0	0-14	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1241
Pasadena, CA 91107-6024		Preparation:	EPA 3520B
		Method:	EPA 8270C(M) Isotope Dilution

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-09-004-597	Aqueous	GC/MS J	06/22/06	06/27/06	060622L01D

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,4-Dioxane	83	88	50-130	5	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received:	N/A
Work Order No:	06-06-1241
Preparation:	EPA 3520B
Method:	EPA 1625CM

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-07-027-251	Aqueous	GC/MS H	06/23/06	06/27/06	060623L09

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
N-Nitrosodimethylamine	78	80	50-130	4	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1241
Pasadena, CA 91107-6024		Preparation:	EPA 5030B
		Method:	EPA 8260B

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
099-10-006-18,441	Aqueous	GC/MS Z	07/03/06	03JUL005.r	060703L01

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Benzene	50	47	94	84-120	
Carbon Tetrachloride	50	57	114	63-147	
Chlorobenzene	50	48	95	89-119	
1,2-Dichlorobenzene	50	48	96	89-119	
1,1-Dichloroethene	50	46	93	77-125	
Toluene	50	48	95	83-125	
Trichloroethene	50	48	97	89-119	
Vinyl Chloride	50	43	87	63-135	
Methyl-t-Butyl Ether (MTBE)	50	47	94	82-118	
Tert-Butyl Alcohol (TBA)	250	210	84	46-154	
Diisopropyl Ether (DIPE)	50	53	107	81-123	
Ethyl-t-Butyl Ether (ETBE)	50	49	99	74-122	
Tert-Amyl-Methyl Ether (TAME)	50	52	104	76-124	
Ethanol	500	350	70	60-138	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-06-1241
Pasadena, CA 91107-6024		Preparation:	EPA 5030B
		Method:	SRL 524M-TCP

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-10-022-240	Aqueous	GC/MS M	06/21/06	06/21/06	060621L02

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,2,3-Trichloropropane	86	91	80-120	6	0-20	
1,4-Dioxane	83	87	80-120	4	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH ELAP

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: N/A
Work Order No: 06-06-1241

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-0602

Matrix: Aqueous

Parameter	Method	Quality Control Sample ID	Date Extracted	Date Analyzed	LCS % REC	LCSD % REC	%REC CL	RPD	RPD CL	Qual
Chloride	EPA 300.0	099-05-118-3,422	N/A	06/20/06	94	95	81-111	1	0-5	
Nitrite (as N)	EPA 300.0	099-05-118-3,422	N/A	06/20/06	92	94	73-115	1	0-26	
Nitrate (as N)	EPA 300.0	099-05-118-3,422	N/A	06/20/06	97	97	87-111	0	0-12	
Sulfate	EPA 300.0	099-05-118-3,422	N/A	06/20/06	99	97	89-107	2	0-13	
Chromium, Hexavalent	EPA 218.6	099-05-124-487	N/A	06/20/06	98	98	95-107	0	0-20	
Perchlorate	EPA 314.0	099-05-203-423	N/A	06/23/06	107	104	85-115	3	0-15	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 06-06-1241

Qualifier	Definition
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike or Matrix Spike Duplicate compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

(1241)

TETRA TECH, INC.
3475 E. FOOTHILL BLVD.
PASADENA, CALIFORNIA 91107
TELEPHONE (626) 351-4664
FAX (626)351-5291

SHIPPED TO: CAL SCIENCE
7440 Lincoln Way
Garden Grove, CA 92841

CHAIN OF CUSTODY RECORD

DATE 6/20/06 PAGE 1 OF 1

CLIENT: LOCKHEED MARTIN CORP
PROJECT NAME: 2006 BOU Groundwater Monitoring (PAC WELLS)
TASK MANAGER: Neil Shukla
TC #: 17597-3.1A / 17653-0602
SAMPLERS (SIGNATURES): [signature]

EXTRACTION/ANALYTICAL METHODS

TURN-AROUND TIME: STANDARD

SAMPLE NO.	DATE	TIME	VOCs EPA 8260B w/ Freon, MTBE - TICs	1,2,3-TCP EPA 504.1 (524.2/LLE-GCMS + PTGC/MS)	Title 22 Metals EPA 6010B/7000 (FILTERED)	Hexavalent Chromium EPA 218.6	1,4-Dioxane EPA 8270C-SIM	NDMA EPA 1625C	Perchlorate EPA 314.0	Dissolved Fe + Mn, total Cr (6000) EPA 200.8 (FILTERED)	CATIONS/ANIONS EPA 6010/300.0	Dissolved Oxygen SM 4500/EPA 360.1	Sulfide EPA 300.0	Nitrate/Nitrite EPA 300.0				MATRIX TYPE	PRESERVATIVE	CONTAINER TYPE	NUMBER OF CONTAINERS		OBSERVATIONS /COMMENTS
			X	X	X	X	X	X	X	X	X	X	X	X									
LTB 062006	6/20/06	0658	X															W	yes	G	2		
MW-8	↓	0829	X	X	X	X	X	X	X	X	X	X	X	X				W	yes	G/P	13		
MW-7		1018	X	X	X	X	X	X	X	X	X	X	X	X				W	yes	↓	13		
MW-3		1153	X	X	X	X	X	X	X	X	X	X	X	X				W	yes	↓	13		
LFB-062006	↓	1033	X															W	yes	G	2		

MATRIX TYPE: S - SOIL, W - WATER, SL - SLUDGE
CONTAINER TYPE: G - GLASS BOTTLE/VOA, SS - STAINLESS STEEL SLEEVE, P - PLASTIC
PRESERVATIVES: HCL, NR (NONE REQUIRED)
TEMPERATURE BLANK EACH COOLER ☐ YES ☐ NO

RELINQUISHED BY	SIGNATURE		DATE	TIME	
NORMAN NG	[signature]	TETRA TECH, INC.	6/20/06	1410	TOTAL NUMBER OF CONTAINERS 43
RECEIVED BY: BAC TA	SIGNATURE: [signature]	COMPANY: CEC	DATE: 6/20/6	TIME: 1410	METHOD OF SHIPMENT: Lab pick up.
RELINQUISHED BY: BAC TA	SIGNATURE: [signature]	COMPANY: CEL	DATE: 6/20/6	TIME: 1540	SPECIAL SHIPMENT/HANDLING OR STORAGE REQUIREMENTS
RECEIVED BY: Shen Lara	SIGNATURE: [signature]	COMPANY: CS	DATE: 6/20/06	TIME: 1540	AIRBILL NO:

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 06 - 06 - 1241

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: Tetra Tech **DATE:** 6/20/6

TEMPERATURE – SAMPLES RECEIVED BY:

CALSCIENCE COURIER:

- _____ Chilled, cooler with temperature blank provided.
- _____ Chilled, cooler without temperature blank.
- ✓ Chilled and placed in cooler with wet ice.
- _____ Ambient and placed in cooler with wet ice.
- _____ Ambient temperature.
- 2.0 °C Temperature blank.

LABORATORY (Other than Calscience Courier):

- _____ °C Temperature blank.
- _____ °C IR thermometer.
- _____ Ambient temperature.

Initial: [signature]

CUSTODY SEAL INTACT:

Sample(s): _____ Cooler: _____ No (Not Intact) : _____ Not Applicable (N/A): ✓

Initial: [signature]

SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody document(s) received with samples	✓		
Sampler's name indicated on COC	✓		
Sample container label(s) consistent with custody papers	✓		
Sample container(s) intact and good condition	✓		
Correct containers and volume for analyses requested	✓		
Proper preservation noted on sample label(s)	✓		
VOA vial(s) free of headspace.	✓		
Tedlar bag(s) free of condensation			✓

Initial: [signature]

COMMENTS:

APPENDIX C
QA/QC SUMMARY

APPENDIX C

QUALITY ASSURANCE/QUALITY CONTROL SUMMARY

1.1 QUALITY ASSURANCE/QUALITY CONTROL SUMMARY

The Quality Assurance/Quality Control (QA/QC) Summary is the relevant QA/QC information associated with the Burbank Operational Unit sampling data set (PACWELLS). The QA/QC Summary contains the following three subjects, which are addressed in detail:

- Data validation concepts, rationale, and practices;
- Data quality objectives, evaluation, and implications; and

1.1.1 SELECTED DEFINITIONS/CRITERIA OF TERMS

1.1.1.1 Holding Times

The U. S. Environmental Protection Agency (U.S. EPA) has established maximum time intervals (holding times) between the collection, extraction, and analysis of samples. All compliant results must be obtained within holding times or the results are considered deficient. Samples analyzed outside of holding times must be qualified.

1.1.1.2 Laboratory and Field Blanks

Laboratory and field blanks are samples used to determine if environmental sample results may be positively biased by laboratory or field contamination. Laboratory blank results indicate contamination due to laboratory operations only, while field blank results indicate contamination from field and/or laboratory operations. Laboratory blanks contaminated above the Practical Quantitation Limit (PQL) indicate a need for corrective action.

1.1.1.3 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Matrix spike samples are environmental samples that are spiked with known concentrations of target analytes. The recovery of the target analytes is used to evaluate the effects of the sample matrix. Matrix effects are considered site specific. One MS/MSD sample is analyzed for every 20 environmental samples. The matrix spike duplicate results may be compared to the matrix spike results in order to determine precision.

1.1.1.4 Laboratory Control Sample (LCS)

The LCS determines if the analytical system is in control and consists of reagent grade (analyte free) water spiked with known concentrations of target analytes. Results from the LCS are considered free of any matrix effects and analyte recoveries outside control limits are used to qualify data.

1.1.1.5 Surrogates

For most methods, surrogate compounds are added to every sample at the beginning of sample preparation and are used to monitor the analytical process and give information concerning matrix effects. Surrogate recoveries are the single most useful QC entity for evaluating environmental analytical data. The ubiquitous use of surrogates in the analytical methods has afforded a large database of results from which useful correlated information can be extracted. Surrogates are chemically similar to target analytes and their

recovery within control limits indicates the process is in control. Surrogates are the primary indicators of matrix effects.

1.1.1.6 Second Column Confirmation

All organic analysis that results in analyte detection should be confirmed in order to have confidence in the result. In the case of gas chromatography/mass spectrometry (GC/MS) analysis, analyte peaks at the correct retention time are confirmed by the mass spectra. For GC or high performance liquid chromatography (HPLC) analysis, a second analytical column and/or a second detector is used for to confirm the presence of the analyte. Unless an analyte is confirmed, its presence cannot be proved.

1.1.1.7 Temperature Blanks

Temperature blanks are placed in coolers with environmental samples in order to determine the temperature of the samples when they arrive at the lab. Temperature blanks typically consist of water in a container similar to the sample containers. Upon receipt at the lab, the temperature blanks are opened and a thermometer is inserted directly into the liquid. Alternatively, the temperature of the samples is measured using an infrared thermometer. The criterion is 4 degrees Celsius, plus or minus 2 degrees. Samples that arrive at the laboratory shortly after sample collection (less than 4 hours) may not have sufficient time for temperature equilibration. In these cases, samples may exceed the upper temperature limit of 6 degrees Celsius, but must be below ambient temperatures.

1.1.1.8 Field Audits

Field audits determine if the sampling procedures used by the field crew are in accordance with standard operating procedures. The techniques used to collect the samples are analyzed to determine if the samples are being collected correctly.

1.1.1.9 Sample Delivery Group (SDG)

The SDG is a laboratory-defined collection of sample results together with the corresponding quality control results. These results are organized under a unique group heading. The laboratory determines the method of grouping the sample results under an SDG and each SDG may contain samples collected at various times and with different matrix types. Generally, each SDG consists of the results for a group of samples received by the laboratory on a single day.

1.1.1.10 Data Gaps

Data gaps may be generated by both field sampling activities and laboratory data problems. Field activities that may produce data gaps include difficulty accessing the sampling location, which results in no sample being collected, or damage and subsequent loss of samples before they reach the laboratory. Laboratory QC errors resulting in data that must be qualified as rejected will also leave data gaps in the analytical results. If necessary, data gaps may be closed quickly by resampling and reanalysis. If the results are not time critical, the gap may be closed during the next quarter of sampling.

1.1.1.11 Corrective Actions

Corrective actions are performed in response to data or conditions that are not in analytical control. Corrective actions are performed in an attempt to bring the error condition back under control. Corrective actions are documented by a corrective action report (CAR) and are included in the laboratory's SDG data package.

1.1.2 DATA VALIDATION RATIONALE AND GUIDELINES

1.1.2.1 Controlling Documents

The following documents were used for data validation.

- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (Publication OSWER 9240.1-05A-P, EPA-540/R-99/008, October 1999); and
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (Publication OSWER 9240.1-35, EPA-540/R-01/008, July 2002).

These two documents are hereinafter collectively referred to as the National Functional Guidelines.

1.1.2.2 Data Validation Theory and Matrix Effects

The practice of data validation in the environmental organic chemistry field has been the subject of debate for many years. Determining the validity of environmental data results when matrix effects are suspected is not an exact science, and professional judgment concerning matrix effects is used to help guide the data to its best logical interpretation and evaluation.

The overall QC of environmental sample analysis can be divided into two main categories. These categories are generally considered to be "method QC" and "instrument QC." Both types of QC operate independently to validate the data and qualify the results.

Instrument QC parameters are often well defined and well understood and are based on the tangible physical laws of analytical instrumentation. Instrument QC parameters have to do with (but are not limited to) the calibration, chromatography, and detection aspects of environmental data analysis. Instrument QC parameters are considered independent from a sample's matrix and/or matrix effects.

Conversely, method QC parameters do not yield results that are as well defined, since they are based in part on problems associated with the intangible and/or unknown effects of the sample matrix. Method QC parameters have to do with (but are not limited to) the spiking, extraction, and spike recovery aspects of environmental data analysis. Method QC parameters are considered dependent on a sample's matrix and/or matrix effects.

When evaluating environmental data results with pronounced or unknown matrix effects, a conservative approach to the validation is required. The method QC parameters are rigidly applied and validations are conferred to entire data sets based on one sample's bias.

1.1.2.3 Data Validation Rationale

The *National Functional Guidelines* were written for use with the Contract Laboratory Program (CLP) methods as outlined in the CLP Statement of Work (SOW). The SOW contains methods for volatile and semivolatile GC/MS analysis, two-column GC pesticide analysis, and inductively coupled plasma (ICP) metal analysis. These methods do not differ significantly in the application of the basic quality control parameters from those found in the corresponding SW846 methods for volatile, semivolatile, pesticide, and ICP metals analyses (hereafter referred to as the SW methods). The target compounds in the CLP are a subset of the SW846 target compounds.

Since the CLP methods and the SW846 methods have similar QC instructions, the *National Functional Guidelines* are usable for the SW methods. In order to validate analytical methods that have no corresponding CLP method validation guidance, logical extrapolations are determined by modeling the pertinent CLP rationale. The resulting validated data have a professional judgment component that allows the validation to be tailored to the individual project. Since the validation of environmental results is not an exact science, interpretive judgments are sometimes required for complex data

1.1.2.4 Validation Qualifiers

B: The sample result is less than 5 times (10 times for common organic laboratory contaminants) the blank contamination. The result is considered not to have originated from the environmental sample, because cross-contamination is suspected.

J: The analyte was positively identified and the result is usable; however, the analyte concentration is an estimated value.

R: The sample result is rejected and not usable for any purpose. The presence or absence of the analyte cannot be verified.

U: The analyte was not detected at or above the reporting detection limit (RDL).

UJ: The analyte was not detected above the MDL; however, the MDL is uncertain and may be elevated above normal levels.

Y: Confirmation column results indicate a non-detect for the target analyte.

1.1.2.5 Qualifier Descriptors

a: The analyte was found in the method blank.

b: The surrogate spike recovery was outside quality control criteria.

c: The MS and/or MSD recoveries were outside control limits.

d: The laboratory control sample recovery was outside control limits.

e: A holding time violation occurred.

f: The duplicate/replicate sample's relative percent difference (RPD) was outside the control limit.

g: The data met prescribed criteria as detailed in the QAPP.

h: The required second column confirmation was not performed.

k: The analyte was found in a field blank.

l: The second column confirmation result indicates the analyte was not confirmed.

n: The laboratory case narrative indicated a QC problem.

p: Professional judgment determined the data should be qualified.

q: The analyte detection was below the PQL.

r: The result is above the instrument's calibration range.

t: The temperature was outside acceptance criteria.

1.1.2.6 Level One Validation Guidelines

Organic Validation Guidelines

Sample Preservation

- As a rule, all samples are required to be preserved at a temperature of 4 degrees Celsius, plus or minus 2 degrees. Additional preservation criteria are method specific. The temperature criterion applies to all samples.

- Samples placed in a cooler and transported directly to the laboratory with short transit times (less than 4 hours) do not allow for temperature equilibration. The temperature of samples with short transit time must be below ambient temperature with evidence of cooling in progress (ice or ice-substitute present).

- Samples with temperatures in excess of six degrees Celsius but less than or equal to 12 degrees Celsius are qualified J for detected analytes and **UJ** for non-detects.

- Samples in gross excess (>12 degrees) of the temperature criteria are qualified **J** for detected analytes and non-detects are qualified **R**.

- The descriptor **t** is used to indicate sample temperature qualification.

Holding Times

- For volatile organic analyses (VOA) samples, analysis after 14 days (7 days if not pH preserved) from collection are qualified **J** and **UJ**.

- For semivolatile (SV) samples, water samples extracted after 7 days (14 days for soil) are qualified **J** and **UJ**. Samples analyzed after 40 days from extraction are also qualified **J** and **UJ**.

- If holding times are grossly exceeded (greater than 2 times the normal holding time), then positive results are qualified **J** and non-detects are qualified **R**.

- The descriptor **e** is used to denote holding time violations.

Blanks

- Analytes found in associated environmental samples at or below 5 times (10 times common organic analytes) of the method or field blank analyte concentrations are qualified **B**.

- The descriptor **a** is used to indicate method blank contamination.

- The descriptor **k** is used to indicate field blank contamination.

Surrogates

- For VOA (GC/MS) samples, there are three cases. Any single surrogate failure will cause qualification.

  - Case #1: Recovery above upper limit, then **J** qualify detected analytes. Do not qualify non-detected analytes.

  - Case #2: Recovery between lower limit and 10 percent, then **J** and **UJ**.

  - Case #3: Recovery below 10 percent, then **J** positive results and **R** non-detects.

- For SV (GC/MS) samples, there are four cases. Except for case four, two surrogate failures (within each fraction) will cause fraction specific qualification.

  - Case #1: Recovery above upper limit, then **J** only. No **UJ**.

- Case #2: Recovery between lower limit and 10 percent, then **J** and **UJ**.
- Case #3: Recovery of one surrogate above upper limit and one surrogate below the lower limit but above 10 percent, then qualify as in case #2.
- Case #4: Any one surrogate below 10 percent, then **J** positive results and **R** non-detects.

- For SV (GC) samples.
  - Case #1: Recovery above upper limit, then **J** only positive results. Non-detects are not qualified.
  - Case #2: Recovery between lower limit and 10 percent, then **J** positive results. Non-detects are qualified **UJ**.
  - Case #3: Recovery below 10 percent, then **J** positive results and **R** non-detects.
- The descriptor **b** is used to indicate surrogate failure qualification.

Laboratory Control Sample

- For laboratory control sample (LCS) qualifications, the specific analytes spiked into the LCS sample must always be qualified. All target analytes are spiked into the LCS.
- For all methods requiring LCS recoveries there are 2 cases.
  - Case #1: LCS recovery is above upper limit, then **J** detected analytes only. Do not qualify non-detects.
  - Case #2: LCS recovery is below lower limit then **J** positive results and **R** non-detects.
- The descriptor **d** is used to indicate LCS qualification.

Matrix Spike/Matrix Spike Duplicates

- The target analytes spiked into the MS/MSD are listed in the project specific QAPP.
- There are two cases for qualification based on the MS/MSD results.
  - Case #1: Non-compliant spike recoveries comprise the first case for qualification based on MS/MSD results. MS and MSD spike recoveries outside of control limits, where the LCS demonstrates that the analytical system was in control, are attributed to the effects of the sample matrix. If both the MS and MSD fail spike recovery criteria as indicated below, qualify based on the least compliant recovery.

- Recovery above upper limit, then **J** detected compounds only. Do not qualify non-detects.
- Recovery between lower limit and 10 percent, then **J** detected compounds and **UJ** non-detects.
- Recovery below 10 percent, then **J** detected compounds and **R** non-detects.

- Case #2: Non-compliance of the RPD value is the second case for qualification of data based on the MS/MSD results. MS/MSD RPDs are calculated from the analyte concentrations of the MS and MSD. If the RPD is outside the control limit, the precision is in question, and the accuracy is compromised.
  - RPD outside the control limit, then qualify the related samples with **J** for detected compounds and **UJ** non-detects.

- The descriptor **c** is used to indicate MS/MSD qualification based on the percent recovery of the spiked analytes.
- The descriptor **f** is used to indicate RPD failure.

Second Column Confirmation

For certain GC or HPLC methods, second column/detector confirmation is required for detected analytes. Refer to the relevant QAPP for method and analyte specific requirements.

Second column results are used to confirm the actual presence or absence of a target analyte. U.S. EPA guidelines state "If the qualitative criteria for both columns were not met, all target compounds that are reported detected should be considered non-detected." Therefore, any compound detection on only one column is not considered a target compound hit.

- For the situation where a compound was detected on the primary column and not detected on the confirmation column, consider the value reported to be not detected. Qualify the result with **Y** and use the **l** descriptor.
- In the case of a detection on the primary column where the required second column confirmation was not performed, then qualify the result with **R** and use the **h** descriptor.

Field Duplicate Samples

Field duplicate samples are collected to assess the precision of the sample collection and laboratory analytical process. As a rule, both the sample and its duplicate result must be at or above the PQL in order to calculate a meaningful RPD and if both results are below the PQL the RPD is not calculated. However, if one result is below the PQL (assume zero for a non-detect) and the other result

significantly above (10 times) the PQL a RPD is calculated. If the RPD is outside the control limit, the precision is in question, and the accuracy is compromised. The qualification resulting from the sample and its duplicate non-compliant RPD apply only to the sample and it's duplicate and is analyte specific.

- If the RPD is outside the control limit, then qualify the sample and its duplicate with **J** for detected compounds and **UJ** non-detects.
- The descriptor **f** is used to indicate RPD failure.

Inorganic Validation Guidelines

Sample Preservation

- As a rule, all samples are required to be preserved at a temperature of 4 degrees Celsius, plus or minus 2 degrees. Additional preservation criteria are method-specific. The temperature criterion applies to all samples except ICP metals and mercury in a water matrix, which are exempt from temperature preservation.
- Samples placed in a cooler and transported directly to the laboratory with short transit times (less than 4 hours) do not allow for temperature equilibration. The temperature of samples with short transit time must be below ambient temperature with evidence of cooling in progress (ice or ice-substitute present).
- Samples with temperatures in excess of six degrees Celsius but less than or equal to 12 degrees Celsius are qualified **J** for detected analytes and **UJ** for non-detects.
- Samples in gross excess (more than 12 degrees) of the temperature criteria are qualified J for detected analytes and non-detects are qualified **R**.
- The descriptor **t** is used to indicate sample temperature qualification.

Holding Times

- Holding times are measured from the sampling date.
- Holding times for inorganic compounds vary from 24 hours for analyses such as chromium VI and pH to six months for ICP metals. Results produced from analyses performed beyond the holding time are qualified as estimated **J** for detected values and **UJ** for nondetects.
- If holding times are grossly exceeded (greater than 2 times the normal holding time), then positive results are qualified **J** and non-detects are qualified **R**.
- The descriptor **e** is used to denote holding time violations.

Blanks

- Equipment blanks and/or laboratory blanks are evaluated for contaminants.
- Analytes found in associated environmental samples at or below 5 times the blank analyte contamination are qualified **B**.
- Analytes qualified for laboratory blank contamination are denoted with a descriptor **a**.
- Analytes qualified for equipment blank contamination are denoted with a descriptor **k**.

Laboratory Control Sample

- For LCS qualifications, the specific analytes spiked into the LCS sample must always be qualified. All target analytes are spiked into the LCS.
- LCS recovery is above upper limit then **J** detected analytes only. Do not qualify non-detects.
- LCS recovery is below lower limit then **J** positive results and **R** non-detects.
- Analytes qualified for LCS failure are denoted with a descriptor **d**.

Matrix Spike/Matrix Spike Duplicate

The target analytes spiked into the MS/MSD are listed in the project specific QAPP. Each specific MS or MSD spiking analyte that fails recovery criteria produces qualification of the matching analyte in the site associated environmental samples. Where both the MS and MSD fail criteria, qualify based on the least compliant recovery.

- MS/MSD recovery results are not used for qualification if the analyte concentration in the environmental sample used for the MS/MSD exceeds the spike concentration by a factor of 4 or more.
- If the MS and/or MSD recovery exceed the upper control limit, then **J** detected compounds only. Do not qualify non-detected compounds.
- If the MS and/or MSD recovery falls between the lower limit and 10 percent, then **J** detected compounds and **UJ** non-detects.
- If the MS or MSD recovery is less than 10 percent, then **J** detected analytes and **R** non-detected analytes.
- The descriptor **c** is used to indicate MS/MSD qualification based on the percent recovery of the spiked analytes.
- MS/MSD RPDs are calculated from the analyte concentrations of the MS and MSD. If the RPD is outside the control limit, the precision is in question, and the accuracy is compromised.
- MS/MSD RPD results are not used for qualification if the analyte concentration in the

environmental sample used for the MS/MSD exceeds the spike concentration by a factor of 4 or more.

- RPD outside the control limit, then qualify the related sample results with **J** for detected compounds and **UJ** non-detects.

- The descriptor f is used to indicate RPD failure.

Field Duplicate Samples

Field duplicate samples are collected to assess the precision of the sample collection and laboratory analytical process. As a rule, both the sample and its duplicate result must be at or above the PQL in order to calculate a meaningful RPD and if both results are below the PQL, the RPD is not calculated. However, if one result is below the PQL (assume zero for a non-detect) and the other result significantly above (10 times) the PQL a RPD is calculated. If the RPD is outside the control limit, the precision is in question, and the accuracy is compromised. The qualification resulting from the sample and its duplicate non-compliant RPD apply only to the sample and it's duplicate and is analyte specific.

- If the RPD is outside the control limit, then qualify the sample and its duplicate with **J** for detected compounds and **UJ** non-detects.

- The descriptor **f** is used to indicate RPD failure.

1.1.3 SUMMARY OF DATA QUALITY OBJECTIVES AND COMPLIANCE

1.1.3.1 Data Quality Objectives

Data quality objectives (DQOs) are qualitative and quantitative statements developed by data users to specify the quality of data from field and laboratory data collection activities. These DQOs must be carefully designed to support specific decisions or regulatory actions. The DQOs describe which data are needed, why the data are needed, and how the data will be used to address the problem being investigated. DQOs also establish numeric limits for the data to allow the data user to determine whether the data collected are of sufficient quality for use in their intended application.

The usability of the data collected during this investigation depends on its quality. A number of factors relate to the quality of data, and sample collection methods are as important to consider as methods used for sample analysis. Following standard operating procedures for both sample collection and analysis reduces sampling and analytical error. Complete chain-of-custody documentation and adherence to required sample preservation techniques, holding times and proper shipment methods ensure sample integrity. Obtaining valid and comparable data also requires adequate QA/QC procedures and documentation, as well as established detection and control limits.

Quantitation limits are based on the extent to which the field equipment, laboratory equipment, or analytical process can provide accurate measurements of consistent quality for specific constituents in field samples. The quantitation limit for a given analysis will vary depending on instrument sensitivity and matrix effects.

1.1.3.2 Precision, Accuracy, Completeness, and Comparability

The effectiveness of a QA program is measured by the quality of data generated by the laboratory. Data quality is judged in terms of its precision, accuracy, completeness, and comparability. These terms are described as follows:

Accuracy

Accuracy is the degree of agreement of a measurement or average of measurements with an accepted reference or "true" value, and is a measure of bias in the system. The accuracy of a measurement system is impacted by the errors introduced through the sampling process, field contamination, preservation, handling, sample matrix, sample preparation, and analytical techniques.

For this project, laboratory accuracy of the measurement data will be assessed and controlled. Results for blanks, matrix spikes, LCS, and surrogates will be the primary indicators of accuracy. These results will be used to control accuracy by requiring that they meet specified criteria. As spiked samples are analyzed, spike recoveries will be calculated and compared to pre-established acceptance limits.

Acceptance limits are based upon previously established laboratory performance for similar samples. In this approach, the control limits reflect the minimum and maximum recoveries expected for individual measurements for an in-control system. Recoveries outside the established limits indicate some assignable cause, other than normal measurement error, and possible need for corrective action. This includes recalibration of the instrument, reanalysis of the QC sample, reanalysis of the samples in the batch, or flagging the data as suspect if the problems cannot be resolved. For contaminated samples, recovery of matrix spikes may depend on sample homogeneity, matrix interference, and dilution requirements for quantification.

Precision

Precision is a measure of agreement among individual measurements of the same property under prescribed similar conditions. When control limits are established for accuracy, it automatically identifies the precision of the method. In the analysis of samples in a preparation batch, if the recoveries of analytes in the LCS are within the control limits, then the precision is also within limits.

Precision is also determined from duplicate sample analysis and MS/MSD analysis. The precision is quantified by the RPD value calculated from the duplicate results.

Completeness

Completeness is a measure of the amount of valid data obtained from a measurement system compared to the amount expected to be obtained under correct, normal conditions.

Successful analyses are defined as those where the samples arrived at the laboratory intact, properly preserved, in sufficient quantity to perform the requested analyses, and accompanied by a completed chain-of-custody. Furthermore, the sample must be analyzed within the specified holding time and in such a manner that analytical QC criteria described in this document are met.

Factors that adversely affect completeness include:

- Receipt of samples in broken containers;
- Receipt of samples in which chain of custody or sample integrity is compromised in some way;
- Samples received with insufficient volume to perform initial analyses or repeat analyses, if initial efforts do not meet QC acceptance criteria;
- Improperly preserved samples; and
- Samples held in the field or laboratory longer than expected, thereby jeopardizing holding time requirements.

Completeness for the entire project also involves completeness of field and laboratory documentation, whether all samples and analyses specified in the Sampling and Analysis Plan have been processed, and whether the procedures specified in the SAP, Work Plan, and Laboratory Standard Operating Procedures (SOPs) have been implemented.

Comparability

Comparability expresses the confidence with which one data set can be compared to another data set measuring the same property. Comparability is ensured through the use of established and approved sample collection techniques and analytical methods, consistency in the basis of analysis (wet or dry weight, volume, etc.), consistency in reporting units, and analysis of standard reference materials.

1.1.3.3 Specific Measurement DQOs for Evaluating Data DQO Compliance

1. Precision is expressed in RPD values. Spiked (MS/MSD) and unspiked duplicate field samples are analyzed in order to determine precision.
2. Accuracy is expressed as a percentage of the data outside the QC entity's control limits. The percent recoveries from laboratory control sample spikes, matrix spikes and surrogate spikes are used to determine accuracy.

The samples for this data set were examined to determine compliance with the DQOs. The results are listed below.

The following methods analyzed samples for the BOU PACWELLS project and resulted in usable data of known precision and accuracy except as listed below. Several analytes had detections below the PQL and are defined as an estimated value. All of these detections are usable data.

Method 314.0 for Perchlorate

No adverse QC issues were detected.

Method 1625C (M) for low level N-Nitrosodimethylamine

No adverse QC issues were detected.

Method 8270C (M) for low level 1,4-Dioxane

No adverse QC issues were detected

Method 524.2 for 1,2,3-Trichloropropane

Low matrix spike recovery values qualified as estimated 1,2,3-Trichloropropane in sample MW-4. The estimated data is usable for its intended purpose.

Method SW6010B/SW7470A for Title 22 Metals

Low matrix spike recovery values qualified as estimated Copper in sample MW-4. The estimated data is usable for its intended purpose.

See Section 1.1.3.7 Blank Contamination below

Method 200.8 for Iron and Manganese

Low matrix spike recovery values qualified as estimated Iron in sample MW-4. The estimated data is usable for its intended purpose.

Method 218.6 for Hexavalent Chromium

No adverse QC issues were detected.

Method SW8260B for Volatile Organic Compounds

See Section 1.1.3.7 Blank Contamination below

Method 300.0 for Common Inorganic Ions

No adverse QC issues were detected.

Method 376.2 for Sulfide

No adverse QC issues were detected.

Method SM 4500-O G for Dissolved Oxygen

No adverse QC issues were detected

1.1.3.4 Completeness

The completeness of this data set was above the DQO criterion of 90 percent. The DQO was satisfied.

1.1.3.5 Data Gaps

All data are usable for their intended purpose except for that data qualified due to method blank contamination. The data qualified for method blank contamination is less than four percent of the total data. No significant data gaps exist.

1.1.3.6 Holding Times Compliance

All samples were analyzed within method specified holding times.

1.1.3.7 Blank Contamination

The method blank the laboratory analyzes is a QC sample that determines if laboratory operations have introduced contamination into the analytical process. An analyte free method blank indicates laboratory operations are not introducing contamination into the process. Conversely, analyte detections in the method blank indicate laboratory sponsored detections. Similar detections in environmental samples that match method blank contamination are qualified with a "B" qualifier.

Detected results with a "B" qualifier indicate the results are due to laboratory sponsored activities and were not present in the native sample. Because the detection was likely caused by laboratory cross-contamination the detected result is considered not usable.

Method SW6010B samples MW-4, MW-4D, MW-5, and MW-6 were qualified due to method blank contamination for analytes Selenium, Thallium, and Zinc. The data is generally not usable.

Method SW6010B samples MW-3, MW-7, and MW-8 were qualified due to method blank contamination for analytes Chromium, Cobalt, and Nickel. The data is generally not usable

Method SW8260B samples MW-5, MW-4D, MW-3, MW-7, and MW-8 were qualified due to method blank contamination for analytes Acetone and Methylene Chloride. The data is generally not usable.

1.1.3.8 Other QC Problems

None to report.